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Environmental Protection Agency

Air and Radiation  
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# **Documentation Supplement for EPA Modeling Applications (V.2.1.6) Using the Integrated Planning Model**

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*Background:* The Integrated Planning Model (IPM) is a multi-regional, dynamic, deterministic linear programming model of the U.S. electric power sector. It provides forecasts of least-cost capacity expansion, electricity dispatch, and emission control strategies for meeting energy demand and environmental, transmission, dispatch, and reliability constraints. IPM can be used to evaluate the cost and emissions impacts of proposed policies to limit emissions of sulfur dioxide ( $\text{SO}_2$ ), nitrogen oxides ( $\text{NO}_x$ ), carbon dioxide ( $\text{CO}_2$ ), and mercury (Hg) from the electric power sector. IPM is used by the U.S. Environmental Protection Agency (EPA) to project the impact of emissions policies on the electric power sector in the 48 contiguous states and the District of Columbia. The assumptions underlying EPA's Base Case and associated policy cases were incorporated in IPM under EPA direction by ICF Resources, Inc. IPM was developed by ICF and is used in support of its public and private sector clients. IPM® is a registered trademark of ICF Resources, Inc.

# **Documentation Supplement for EPA Modeling Applications (V.2.1.6) Using the Integrated Planning Model**

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**July 2003**

This report documents a series of updates that were incorporated in EPA modeling applications using the Integrated Planning Model (IPM) in the Spring of 2003.

Designated Version 2.1.6, the latest available data were used to update key model parameters in the EPA Base Case and associated policy cases in preparation for performing analyses in conjunction with Congressional consideration of the Administration's Clear Skies Initiative.

This report is a supplement to the comprehensive documentation of EPA's applications of IPM as reported in *Documentation of EPA Modeling Applications (V.2.1) Using the Integrated Planning Model*, EPA 430/R-02-004, which is available for viewing and downloading at [www.epa.gov/airmarkets/epa-ipm](http://www.epa.gov/airmarkets/epa-ipm). This supplementary report consists of a Summary Table listing the v.2.1.6 updates and a series of attachments providing details of specific updates. To help readers track the parameters that were updated, the Master Table contains cross references to the earlier documentation report. Parameters not included in the Master Table remained unchanged.

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## Summary Table of V.2.1.6 Updates

ID	Feature	Description	Doc. Report Section <sup>1</sup>
<b>Power System Operations Assumptions</b>			
1	Revised aggregation scheme  ("Documentation for v.2.1" refers to the report <i>Documentation of EPA Modeling Applications (V.2.1) Using the Integrated Planning Model</i> , EPA 430/R-02-004 (March 2002), which is available for viewing and downloading at <a href="http://www.epa.gov/airmarkets/epa-ipm">www.epa.gov/airmarkets/epa-ipm</a> .	The aggregation scheme was revised to enable modeling emission scenarios in geographical areas most likely to be of future interest. Table A-1 in Attachment A updates the crosswalk between actual and model plants that was previously presented as Table 4.7 in the documentation for v.2.1. Table A-2 and the accompanying map provides details on the geographical aggregation scheme used in the v.2.1.6.	3.1 4.2.6 Appendix A4.1
2	Electricity Demand Growth: @ 1.55% indexed on AEO 2003 electricity sales projections.  (AEO 2003 refers to <i>Annual Energy Outlook 2003 with Projections to 2025</i> , DOE/EIA-0383(2003), released by the U.S. Department of Energy's Energy Information Administration on January 9, 2003.)	1. As was done in EPA's previous applications of IPM, calculations were performed to account for efficiency improvements not factored into AEO 2003's projections of electricity sales. This resulted in a 2000-2020 adjusted electricity growth rate of 1.55% per year.  Attachment B provides details.	3.2.1 3.2.2 Appendix A3.1
3	State Multi-Pollutant Regulations	Attachment C lists the state multipollutant programs incorporated in v.2.1.6.	3.9
4	New Source Review (NSR) Settlements	Attachment D shows the settlements under New Source Review provisions of the Clean Air Act that were included in v. 2.1.6.	3.9.3
5	State Renewable Energy Programs	V. 2.1.6 incorporates the capacity shown in Table 76 in the AEO 2003 assumptions document. Entitled "Planned 2002+ U.S. Central Station Generating Capacity Using Renewable Resources," the table captures the effects of state renewable energy programs in its projection of both existing and forecasted renewable capacity. Table 76 appears on pp. 131-133 of the document "Assumptions for the Annual Energy Outlook 2003," which can be found on the Web at <a href="http://www.eia.doe.gov/oiaf/aeo/assumption/pdf/0554(2003).pdf">www.eia.doe.gov/oiaf/aeo/assumption/pdf/0554(2003).pdf</a> .	3.9.4 (Not covered)
6	State Renewable Portfolio Standards (RPS)	V. 2.1.6 does not endogenously model RPS beyond the capacity already implicit in Table 76 "Planned 2002+ U.S. Central Station Generating Capacity Using Renewable Resources." (See previous item for information on locating this table.)	3.9.4 (Not covered)

ID	Feature	Description	Doc. Report Section <sup>1</sup>												
7	Emission and removal rate assumptions for potential units.	<p>The emission and removal rates are the same as in AEO 2003, i.e.,</p> <table style="margin-left: 100px;"> <tr> <td>Conventional Pulverized Coal (CPC)</td> <td>NOx Rates 0.11 lb/mmBtu</td> <td>SO2 Rates 95% Removal</td> </tr> <tr> <td>Integrated Gasification Combined Cycle (IGCC)</td> <td>0.02 lb/mmBtu</td> <td>99% Removal</td> </tr> <tr> <td>Combined Cycle (CC)</td> <td>0.02 lb/mmBtu</td> <td>—</td> </tr> <tr> <td>Combustion Turbine (CT)</td> <td>0.08 lb/mmBtu</td> <td>—</td> </tr> </table> <p>These differ from the removal rates in v. 2.1 (also called EPA Base Case 2000). See Attachment E for a detailed breakdown of the differences.</p>	Conventional Pulverized Coal (CPC)	NOx Rates 0.11 lb/mmBtu	SO2 Rates 95% Removal	Integrated Gasification Combined Cycle (IGCC)	0.02 lb/mmBtu	99% Removal	Combined Cycle (CC)	0.02 lb/mmBtu	—	Combustion Turbine (CT)	0.08 lb/mmBtu	—	3.9.5
Conventional Pulverized Coal (CPC)	NOx Rates 0.11 lb/mmBtu	SO2 Rates 95% Removal													
Integrated Gasification Combined Cycle (IGCC)	0.02 lb/mmBtu	99% Removal													
Combined Cycle (CC)	0.02 lb/mmBtu	—													
Combustion Turbine (CT)	0.08 lb/mmBtu	—													
<b>Generating Resources</b>															
8	National Electric Energy Data System (NEEDS) Changes		4.1 4.2												
	The following changes were made to NEEDS, the database that serves as the source of all currently operating and planned/committed units represented in v.2.1.6.														
8a	AES Deepwater Unit	The AES Deepwater generating unit in Texas (ID #10670_G_GEN1) was identified as combusting fossil waste in NEEDS 2000 (used for the EPA Base Case 2000, v2.1) but as combusting oil in EPA's Emissions and Generation Resource Integrated Database (EGRID). Further investigation revealed that this unit burned petroleum coke and some oil. To give a more accurate representation of its mercury emissions, in v. 2.1.6 the unit was designated as combusting petroleum coke and assigned a corresponding mercury emission rate of 23.18 lb/TBtu (dry).													
8b	Mercury Emission Rates for Existing Geothermal Units	Based on recent information obtained by EPA, mercury emission rates were updated to 2.97 lbs/TBtu for existing geothermal units in California and 3.65 lbs/TBtu for existing geothermal units in the IPM model region NWPE. In addition, 29 MW of existing geothermal capacity was identified in the AZNM model region and 8 MW in the PNW model region and assigned an emission rate of 3.70 lbs/TBtu, the same emission rate as assigned to new potential geothermal units in v.2.1.6. (See item #10 below.)													
8c	Hawthorn Unit 5	This 550 MW coal unit was added to NEEDS, v. 2.1.6.													
8d	Updated information on unit closures	Units that were shown as retired or out of service in 2000 EIA 860a were removed from the NEEDS database as part of the v.2.1.6 update. Based on supplemental information, Ashtabula units 8, 10 and 11, Arapahoe units 1 and 2, Arkwright units 1 - 4, 5A, 5B, and Mitchell units 1 and 2 were also removed from the NEEDS population, either because they were retired or out of service.	4.2												

ID	Feature	Description	Doc. Report Section <sup>1</sup>										
8e	Life Extension Costs	A life extension cost of \$5/kW-yr is added to every fossil plant that reaches an age of 30 years. This assumption is based on AEO 2003.	4.2.4 and 4.3.4										
8f	SO <sub>2</sub> , NO <sub>x</sub> , and Particulate Controls	<p>The inventory of SO<sub>2</sub>, NO<sub>x</sub>, and particulate controls in v.2.1.6 was derived from U.S. EPA's Emission Tracking System, 2002, Quarter 2, supplemented by corroborated information obtained from utilities, control technology vendors, state and regional regulatory agencies, and trade publications and announcements.</p> <p>Attachment F shows the inventory of emission controls on existing generating units that are included in v.2.1.6.</p>	4.2.5										
8g	Updated planned/committed capacity	<p>Existing and planned/committed units in NEEDS 2.1.6 were derived from the following data sources:</p> <table> <thead> <tr> <th style="text-align: left;"><u>Period</u></th> <th style="text-align: left;"><u>Source</u></th> </tr> </thead> <tbody> <tr> <td>1998 and earlier</td> <td>NEEDS 2000</td> </tr> <tr> <td>1999-2000</td> <td>EIA 860, as released in year 2000. EIA 860 shows operating units for these years.</td> </tr> <tr> <td>2001</td> <td>RDI. (Updated through the July 2002 release of the RDI database.)</td> </tr> <tr> <td>2002-2005</td> <td>AEO 2003 or RDI. AEO 2003 was used for renewable (biomass, geothermal, landfill gas, hydro, pumped storage, solar, and wind) and non-conventional generating units (fuel cells) due to the Energy Information Administration's (EIA) extensive research in this area for AEO 2003. The RDI database (up through the July 2002 release) was used for conventional generating units (coal steam, combined cycle turbines, combustion turbines, fossil and non-fossil waste) since it was more current than AEO 2003.</td> </tr> </tbody> </table> <p>Attachment G lists the planned/committed units included in NEEDS 2.1.6 and gives a detailed summary of the data sources used.</p>	<u>Period</u>	<u>Source</u>	1998 and earlier	NEEDS 2000	1999-2000	EIA 860, as released in year 2000. EIA 860 shows operating units for these years.	2001	RDI. (Updated through the July 2002 release of the RDI database.)	2002-2005	AEO 2003 or RDI. AEO 2003 was used for renewable (biomass, geothermal, landfill gas, hydro, pumped storage, solar, and wind) and non-conventional generating units (fuel cells) due to the Energy Information Administration's (EIA) extensive research in this area for AEO 2003. The RDI database (up through the July 2002 release) was used for conventional generating units (coal steam, combined cycle turbines, combustion turbines, fossil and non-fossil waste) since it was more current than AEO 2003.	4.3
<u>Period</u>	<u>Source</u>												
1998 and earlier	NEEDS 2000												
1999-2000	EIA 860, as released in year 2000. EIA 860 shows operating units for these years.												
2001	RDI. (Updated through the July 2002 release of the RDI database.)												
2002-2005	AEO 2003 or RDI. AEO 2003 was used for renewable (biomass, geothermal, landfill gas, hydro, pumped storage, solar, and wind) and non-conventional generating units (fuel cells) due to the Energy Information Administration's (EIA) extensive research in this area for AEO 2003. The RDI database (up through the July 2002 release) was used for conventional generating units (coal steam, combined cycle turbines, combustion turbines, fossil and non-fossil waste) since it was more current than AEO 2003.												
9	Cost and Performance of Potential	The cost and performance assumptions for new (potential) conventional pulverized	4.4.2										

ID	Feature	Description	Doc. Report Section <sup>1</sup>
	(New) Capacity from Conventional Generating Units	coal, integrated gasification combined cycle, combined cycle, advanced combined cycle, and combustion turbine units were updated based on AEO 2003. See Attachment H for details.	
10	Mercury emissions for new (potential) geothermal units	Based on recent information obtained by EPA, the mercury emission rate for new (potential) geothermal plants was updated to 3.70 lbs/TBtu in v.2.1.6, compared to 4.08 lbs/TBtu in v.2.1. (See item 8b above for a description of related updates of the mercury emission rates for existing geothermal plants.)	4.4.3 5.3.1
11	Existing Nuclear Units		
11a	Cost and performance	<p>1. To provide maximum granularity in forecasting the behavior of nuclear units, 102 out of the 103 existing nuclear units in v.2.1.6 are represented by separate model plants. (Note: All nuclear generating units, except Browns Ferry units 1 and 2 are represented by a separate model plant. In the v.2.1.6 base case, Browns Ferry Unit 1, which is projected to be brought out of mothballs, is represented by the same model plant as Browns Ferry Unit 2. See item 11c below for further details.) In v.2.1, the 103 existing nuclear units were represented by 47 model plants.</p> <p>2. AEO 2003 cost and performance assumptions were implemented. These include</p> <ul style="list-style-type: none"> <li>(a) Variable operations and maintenance (VOM), fixed operations and maintenance (FOM), and fuel cost assumptions as in AEO 2003. Attachment I details the cost assumptions included in v. 2.1.6.</li> <li>(b) AEO 2003 assumption of cost incurred from age 30, i.e., an addition of \$50/Kw/yr to annual FOM costs starting at age 30.</li> <li>(c) Availability assumptions are expressed in terms of capacity factors, which are based on AEO 2003. As in AEO 2003, v. 2.1.6 assumes two vintages of existing nuclear units, based on whether a unit's start date occurs before or after 1982. For the older vintage, the capacity factor increases 0.5 percentage point per year through age 25, stays flat from 25-40, and then declines by 0.5% point after 40. The capacity factor of a newer vintage unit increases by 0.7 percentage point per year through age 30, is flat from 30-40, and declines by 0.5% point after age 40. The maximum capacity factor is assumed to be 90%. Any plant starting with a capacity factor above 90% just remains at its current level, at least until it is old enough to start declining.</li> </ul> <p>3. In v.2.1.6 existing nuclear units are constrained to retain the same retirement pattern as in AEO 2003.</p>	4.5 Appendix 4.4

ID	Feature	Description	Doc. Report Section <sup>1</sup>
11b	Upratings	All the nuclear capacity uprating assumptions that are in AEO 2003 were incorporated in NEEDS 2.1.6.  A listing of all upratings appears in Attachment J.	4.5 Appendix 4.4
11c	Browns Ferry Unit 1	V. 2.1.6 uses the same assumptions about this TVA unit being brought out of mothballs as in AEO 2003, i.e.,  1. The unit has a zero capacity factor (availability) until 2007. Starting in 2007, it can operate up to a 75% capacity factor.  2. Like other existing nuclear units its capacity factor grows by 0.7% per year until it reaches a maximum of 90%.  3. Its costs were assumed to be the same as those for Browns Ferry Unit 2.	4.5 Appendix 4.4
<b>Emission Control Technologies</b>			
12	Selective Non-Catalytic Reduction (SNCR) Control of NOx Emissions	In v. 2.1.6 SNCR is available as an emission control retrofit option for all coal plants \$25 MW and < 200 MW rather than to all plants \$ 25, as in v.2.1. In both v.2.1 and v.2.1.6 SNCR is available to all oil/gas steam units \$ 25 MW.	5.2.2
13	Gas Reburn Option for NOx Control at coal fired plants	To reduce model size, this option, which was provided in v 2.1, was not offered in v2.1.6.	5.2.2
14	Mercury Emission Modification Factors (EMFs)	Mercury emission modification factors are multipliers that represent the extent of mercury removal achieved by various configurations of NO <sub>x</sub> , SO <sub>2</sub> and particulate emission controls at coal fired generating units. Based on additional information received on the performance of these controls, mercury EMFs were updated. Attachment K shows the mercury EMFs used in v. 2.1.6.	5.3.2 5.3.3 Appendix A5.4
15	Mercury Control Using Activated Carbon Injection (ACI)	Instead of modeling ACI with an 80% mercury removal rate, as was done in v. 2.1, v.2.1.6 has the capability to provide two concurrent ACI options of 60% and 90% mercury removal. The two options could be used for special mercury analyses. However, v. 2.1.6 will use an ACI mercury removal rate of 90% for typical analyses. Due to constraints on model size and run time, the 60% removal option is intended to be applied only on selected sensitivity analysis runs.	5.3.3 Appendix A5.3
16	Mercury Control Costs Using ACI	Based on information received from ACI vendors as an outgrowth of the Mercury MACT FACA process, the cost and injection rates for ACI were revised. ("Mercury MACT FACA process" refers to the advisory committee set up under the Federal Advisory Committee Act (FACA) to enable EPA to obtain input on proposed regulations governing maximum achievable control technology (MACT) for	Appendix A5.3.2

ID	Feature	Description	Doc. Report Section <sup>1</sup>
		<p>mercury removal from electric generating units.)</p> <p>(See Attachments L1 and L2 for a complete development of the ACI cost equations used in v. 2.1.6.)</p>	
<b>Financial assumptions</b>			
17	Revised financial assumptions for Integrated Gasification Combined Cycle (IGCCs) plants.	With the following exceptions, the financial assumptions in v.2.1.6 are the same as in EPA Base Case 2000 (v.2.1): IGCCs and Repowerings-to-IGCCs are assigned the discount rate (DR) and capital charge rate (CCR) associated with high (rather than medium) risk investments, i.e., DR = 6.74%, not 6.14%. CCR = 13.4%, not 12.9%	7
<b>Fuel Assumptions</b>			
18	Coal Supply Curves	To provide greater consistency between the v.2.1.6 and the AEO 2003 coal supply curves, the regional coal supply curves in v.2.1.6 were adjusted to reflect the percentage change in labor productivity assumed in AEO 2003. The coal transportation cost escalation rates in v.2.1.6 were also made consistent with those assumed in AEO 2003. See Attachment M for a presentation of the AEO 2003 labor productivity and transportation escalator assumptions.	8.1
19	Natural Gas Supply Curves	<p>Updated gas supply curves were generated using ICF Consulting Inc.'s North American Natural Gas Analysis System (NANGAS) model. Key activities included:</p> <ol style="list-style-type: none"> <li>1. Gas supply curves were developed for the 2005-2025, modeling horizon, rather than the 2005-2020 period used earlier.</li> <li>2. Earlier optimistic technology assumptions, developed for the Department of Energy's National Energy Technology Laboratory's (NETL), were reviewed and revised resulting in a somewhat less optimistic technology perspective.</li> <li>3. The Gulf of Mexico East drilling moratorium was incorporated in NANGAS.</li> <li>4. EIA success rates for Gulf of Mexico offshore were adopted.</li> <li>5. Pipeline links were checked to ensure correct gas flow, e.g., making sure the Rockies-Southwest link shows gas flows from the Rockies to the Southwest rather than the reverse.</li> <li>6. Seasonal transportation adders were updated.</li> <li>7. Four initial NANGAS runs were performed to cover the range of anticipated electric demand growth rates. A separate NANGAS run was performed at electric demand annual growth rates of 1.1%, 1.55% (EPA's CCAP adjusted growth rate),</li> </ol>	8.2 Appendix 8.1

ID	Feature	Description	Doc. Report Section <sup>1</sup>								
		<p>1.88% (approximating the AEO 2003 Reference Case electricity sales growth rate), and 2.2%.</p> <p>8. Outputs from the four runs were used to produce an initial set of natural gas supply curves for incorporation in IPM.</p> <p>9. A series of iterations was performed between NANGAS and IPM until convergence was achieved in the IPM and NANGAS electric sector results. The gas supply curves generated by this process were incorporated in v.2.1.6.</p> <p>Attachments N contains the natural gas supply curves used in v. 2.1.6 for each model run year and the seasonal transportation adders.</p>									
20	Oil prices consistent with AEO 2003	<p>1. V. 2.1.6 fuel prices for distillate oil and high and low sulfur residual oil were based on the AEO 2003. The prices used in v.2.1.6 are shown in Attachment O together with the AEO 2003 source data from which the prices were derived.</p> <p>2. The sulfur content for these fuels were defined to be consistent with AEO 2003, i.e.,</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;">Fuel</th> <th style="text-align: left;">Sulfur Content</th> </tr> </thead> <tbody> <tr> <td>Distillate</td> <td>0.3</td> </tr> <tr> <td>Residual: Low Sulfur</td> <td>1.08</td> </tr> <tr> <td>Residual: High Sulfur</td> <td>2.69</td> </tr> </tbody> </table>	Fuel	Sulfur Content	Distillate	0.3	Residual: Low Sulfur	1.08	Residual: High Sulfur	2.69	8.3
Fuel	Sulfur Content										
Distillate	0.3										
Residual: Low Sulfur	1.08										
Residual: High Sulfur	2.69										
<b>Miscellaneous Other Features</b>											
21	SO <sub>2</sub> allowance bank	An SO <sub>2</sub> allowance bank of 6.414 million tons (going into 2005) was assumed.									
22	Feasibility constraint on the maximum amount of SO <sub>2</sub> scrubbers that can be built in 2005 under the v.2.1.6 Clear Skies run	The maximum amount of SO <sub>2</sub> scrubbers that could be built in 2005 was limited to 5066 MW in the Clear Skies run. This is consistent with recent EPA assessments of the short-term feasibility of scrubber installations.									

#### **Notes**

1. This column indicates the most closely related sections in *Documentation of EPA Modeling Applications (V. 2.1) Using the Integrated Planning Model* (EPA 430/R-02-004), March 2002. This report, which documents the assumptions underlying EPA Base Case 2000, can be viewed and downloaded from [www.epa.gov/airmarkets/epa-ipm](http://www.epa.gov/airmarkets/epa-ipm). The features listed in this table superceded corresponding assumptions in the documentation report.

**Attachment A**  
**Aggregation Scheme in v.2.1.6**

While all grid-connected existing and planned/committed electric generating units in the lower continental U.S. are represented in v.2.1.6, an aggregation scheme is used to cluster real life units into model plants, and IPM uses the model plants in the actual modeling. The aggregation scheme serves to reduce the size of the model and makes the model manageable while capturing the essential characteristics of the generating units.

Table A-1 provides a crosswalk between actual plants and model plants in v.2.1.6. For each plant type, the table shows the number of real plants and the number of model plants representing these real plants in v.2.1.6. (This is an update of Table 4.7 that appears in *Documentation of EPA Modeling Applications (V.2.1) Using the Integrated Planning Model*.)

The aggregation scheme also defines groups of states across which generating units can be aggregated. Attempts are made to define these state groups in a way to support emissions analyses that seem most likely to be requested in the future. Table A-2 and an accompanying map show the geographical aggregation scheme used in v.2.1.6.

**Table A-1 Aggregation Profile for Model Plants As Provided in Set Up of EPA Base Case, v.2.1.6**

Existing Units*			Retrofits					
Plant Type	Number of Units	Number of IPM model Plants		Number of Units	Number of IPM model Plants			
Coal Steam	1,293	696	Coal To Scrubber Retrofit	---	493			
Oil/Gas Steam	856	224	Retrofit Coal to Scrubber+SCR	---	1120			
Combined Cycle	860	190	Retrofit Coal to Scrubber+SNCR	---	458			
Turbine	5,021	319	Retrofit Coal to Gas Reburn	---	—			
Integrated Gas Combined Cycle	3	3	Retrofit Coal to Gas Reburn + Scrubber	---	---			
Nuclear**	104	103	Retrofit Coal to Selective Catalytic Reduction (SCR)	---	323			
Hydro	3,889	24	Retrofit Coal to Selective Noncatalytic Reduction (SNCR)	---	291			
Pumped Storage	142	17	Retrofit Coal to Activated Carbon Injection (ACI)	---	927			
Biomass	130	30	Retrofit Coal to ACI + SCR	---	444			
Wind	192	22	Retrofit Coal to ACI + SNCR	---	457			
Fuel Cell	10	3	Retrofit Coal to ACI+Scrubber	---	969			
Solar	27	5	Retrofit Coal to ACI+Scrubber+SCR	---	736			
Geothermal	202	4	Retrofit Coal to ACI+Scrubber+SNCR	---	287			
Landfill Gas	129	21	Retrofit Oil and Gas to SCR	---	202			
Fossil Waste	9	8	Retrofit Oil and Gas to SNCR	---	202			
Non-Fossil Waste	126	34	Retrofit Nuclear -- 10 year extension at age 30	---	---			
<b>Total</b>	<b>12,993</b>	<b>1,703</b>	Retrofit Nuclear -- 20 year extension at age 40	---	---			
			Retrofit Nuclear -- 10 and 20 year extensions	---	---			
			<b>Total</b>	<b>---</b>	<b>6,909</b>			
New Units			Repowerings					
Conventional Pulverized Coal	---	72	Coal to Combined Cycle repowering	---	568			
IGCC	---	72	Coal to IGCC repowering	---	568			
Combined Cycle	---	74	Oil and Gas to Combined Cycle repowering	---	224			
Combustion Turbine	---	74	<b>Total</b>	<b>---</b>	<b>1,360</b>			
Advanced Combustion Turbine	---	74	Early Retirements					
Advanced Nuclear	---	78	Coal Early Retirement	---	696			
Biomass	---	26	Oil and Gas Early Retirement	---	224			
Wind	---	132	Combined Cycle Early Retirement	---	190			
Fuel Cells	---	54	Combustion Turbine Early Retirement	---	319			
Solar Photovoltaics	---	26	Nuclear Early Retirement	---	103			
Solar Thermal	---	11	<b>Total</b>	<b>---</b>	<b>1,532</b>			
Geothermal	---	14						
Landfill Gas	---	24						
<b>Total</b>	<b>---</b>	<b>731</b>						
<b>Grand Total (Existing + New + Retrofits + Repowerings + Early Retirements):</b>			<b>12,235</b>					
<u>Notes</u>								
*IPM plants with total capacity of . 0.5 MW were not included in v.2.1.6.								
**All nuclear generating units, except Browns Ferry units 1 and 2 are represented by a separate model plant. In the v.2.1.6 base case, Browns Ferry Unit 1, which is projected to be brought out of mothballs, is represented by the same model plant as Browns Ferry Unit 2.								

## Table A-2. Geographical Aggregation Scheme in EPA-IPM v2.1.6

The v.2.1.6 aggregation offers the capability to model separate emission limits in WRAP trading and non-trading states, East and West Clear Skies regions, NO<sub>x</sub> trading regions, the NO<sub>x</sub> SIP Call region as a whole, and OTC. It also supports the ability to model emission limits in a potential six regional planning organizations (RPOs): West (coincides with WRAP) Central (also called CenSARA and CENRAP), Midwest (also called LADCO), NESCAUM, Northeast (NESCAUM + PA, MD, DE and DC), and Southeast. This aggregation scheme also separates out Texas, Connecticut, and New Hampshire to represent existing state emission caps; and Kansas and Oklahoma to allow their inclusion in either the Clear Skies East or West regions; and Wisconsin to allow for possible changes in the SIP call region. Missouri is also separate so that it can be included in both the SIP Call and in the Central RPO.

When aggregated into model plants, units cannot be from more than one of the 26 electric dispatch model regions and from more than one of the following regions.

No.	Region Name	Reason for differentiation	States Included
<b>Major Groups</b>			
1	SIP Call - NESCAUM	When combined with the Northeast Border states and Connecticut allows NESCAUM to be broken out.	MA,NJ,NY,RI
2	SIP Call - Non-NESCAUM OTC without Virginia	When combined with "SIP Call - NESCAUM" and Virginia allows the OTC to be broken out.	DC,DE,MD,PA
3	SIP Call - Virginia	Allows Virginia to be included in the SIP Call, OTC, and the Southeast RPO.	VA
4	SIP Call - LADCO	When combined with Wisconsin allows LADCO to be broken out.	IN,IL,MI,OH
5	SIP Call - Missouri <sup>1</sup>	Allows Missouri to be included in both the SIP Call and in the Central (CenSARA) RPO	MO
6	SIP Call - South <sup>2</sup>	When combined with Florida, Mississippi, and Virginia allows the Southeast RPO to be broken out	AL,GA,KY,NC,SC,TN,WV
7	WRAP Nontrading States	To differentiate WRAP states with and without expressed interest in trading	WA,MT,ND,SD
8	WRAP Trading States		OR, ID, WY, CA, NV, UT, CO, AZ, NM
9	Connecticut	To capture existing emission policies	CT
10	New Hampshire		NH
11	Border States - Northeast	To cluster states not anticipated to require separate differentiated analysis of emission limits into the largest possible groups of contiguous states.	ME,VT
12	Border States - South Central		AR,LA
13	Border States - Midwest		IA,MN

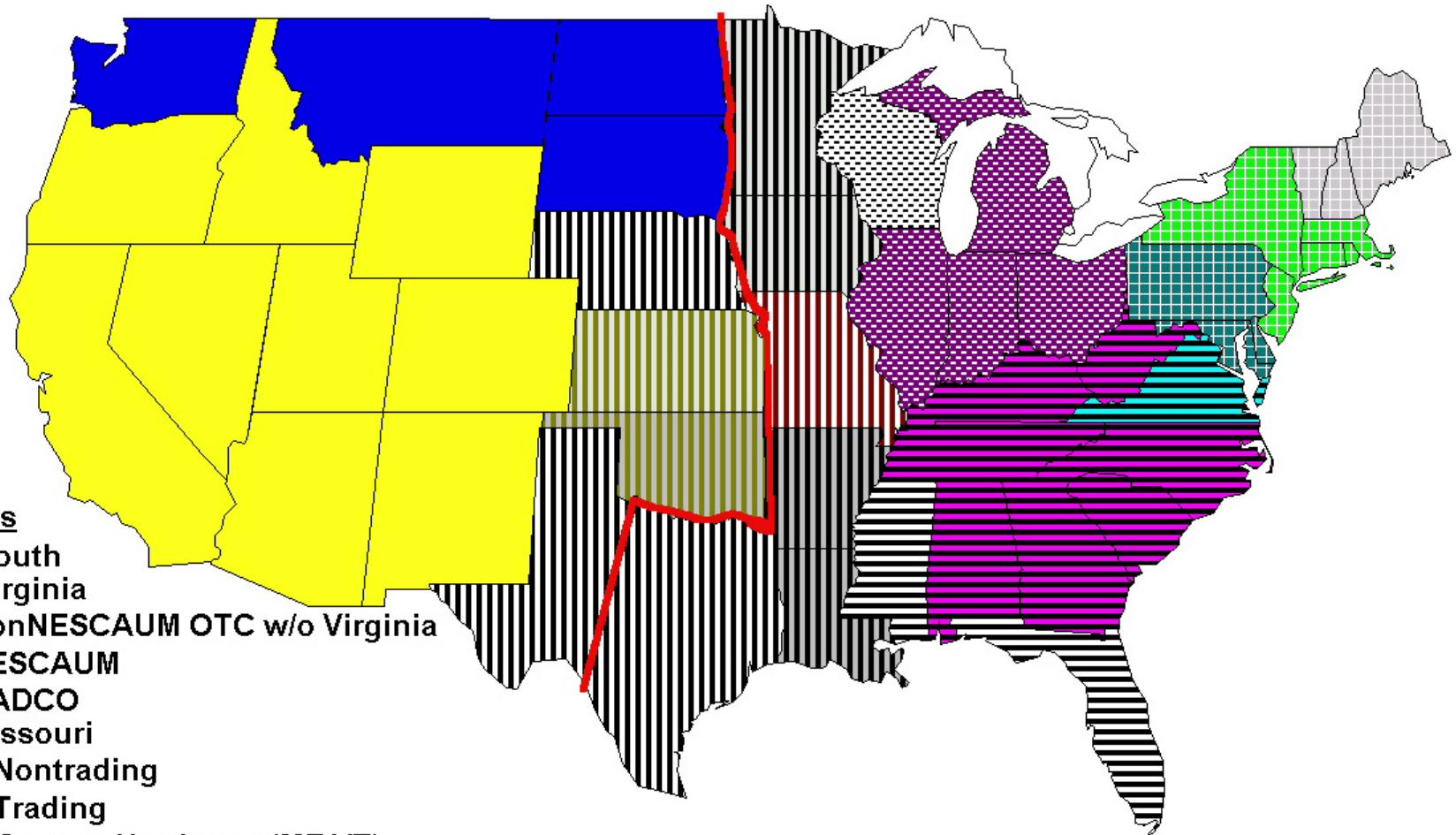
<b>Other</b>			
14	Texas - East	To support the East/West NO <sub>x</sub> trading zones in Clear Skies	TX - East of Interstate 35
15	Texas - West		TX - West of Interstate 35
16	Wisconsin	To retain the option of analyzing Wisconsin both in and out of the SIP Call.	WI
17	Nebraska	Nebraska is not in the WRAP, but must be analyzed with the WRAP states and Texas - West when analyzing the NO <sub>x</sub> West trading zone for Clear Skies.	NE
18	Florida	Is not in SIP Call region so must be treated separately.	FL
19	Mississippi	Is not in SIP Call or in Central RPO so cannot be lumped in with them, but must be treated separately.	MS
20	Oklahoma	Allows inclusion of these states in the Clear Skies Initiative West region.	OK
21	Kansas		KS

Notes

<sup>1</sup>Since generating units in eastern Missouri are already captured separately as part of the IPM model region MANO, the model is already equipped to analyze possible future scenarios that include eastern Missouri in the SIP Call Region. Such a scenario is part of a recent EPA rulemaking proposal.

<sup>2</sup>Though not currently included in the SIP Call, Georgia is aggregated with states in the "SIP Call - South" subregion because Georgia is requiring power plants in the northern part of the state to install controls which are comparable to the controls under the SIP Call. In addition, including Georgia in the "SIP Call - South" subregion equips IPM to analyze possible future scenarios that may arise out of a recent EPA rulemaking proposal which includes northern Georgia in the SIP Call region. It also avoids the complexity of having to create a separate subregion just for the south part of Georgia.

## Geographical Aggregation Scheme in IPM v. 2.1.6



### Others (with reasons for separation)

- Texas - East (Clear Skies)
- Texas - West (Clear Skies)
- Oklahoma and Kansas (Enable inclusion in Clear Skies West)
- Wisconsin (Option to be in or out of SIP Call)
- Nebraska (in Clear Skies West; not in WRAP)
- Florida (Not in SIP Call)
- Mississippi (Not in Central RPO or SIP Call)
- Connecticut and New Hampshire (to capture state regulations)

— Border Between Clear Skies East and West

## **Attachment B**

### **Electricity Demand Growth in V.2.1.6**

### **Electric Load Growth**

The electricity sales forecast in the U.S. Energy Information Administration's *Annual Energy Outlook 2003 with Projections to 2025* (AEO 2003) provided the starting point for the electric load growth assumptions used in v.2.1.6. AEO 2003 projects electricity consumption to grow at an average annual rate of 1.86% in the period 2000 through 2020. As was done in v.2.1<sup>1</sup>, calculations were performed to account for the documented and projected reductions in consumption due to a series of voluntary programs operated by both the U.S. Department of Energy and EPA, collectively known as the Climate Change Action Plan, or CCAP.

The AEO 2003 electricity sales projections do not fully reflect these energy efficiency reductions. However, there is a degree of uncertainty about the extent to which the AEO 2003 electricity sales projections capture the energy efficiency electricity reductions. To bound this uncertainty, estimates were made of the electricity growth rate assuming "High" and "Low" accounting for CCAP efficiency improvements in the electricity sales projections. The "High" case implied that the AEO 2003 electricity sales growth projections already include a high level of the CCAP reductions and, therefore, only limited compensating downward adjustments were needed to fully account for the impact of the voluntary programs. The "Low" case implied the opposite, i.e., the AEO 2003 sales growth projections include a low degree of the actual CCAP reductions, so must be lowered to a greater extent to reflect the full extent of actual efficiency improvements.

The conclusions from this analysis were that if AEO 2003 projections already capture a high degree of CCAP reductions, then the actual average annual electricity growth rate would be 1.67% instead of 1.86%, whereas if AEO captures a low degree of the efficiency improvements, then the growth rate would be 1.40% instead of 1.86%. Based on this analysis, it was determined that an average annual growth rate of 1.55% was a reasonable estimate of electricity sales after taking full account of the efficiencies achieved as a result of the DOE and EPA programs. Data from a February 2003 EIA model run confirmed the choice of this growth rate, yielding a point estimate of 1.57% for the average annual electricity growth rate. (Note: In v.2.1 the comparable growth rate was found to be 1.25%.) The following attached worksheet shows calculations that were performed to estimate the final growth rate. Note that estimates were obtained for 2010 and 2020. Linear interpolation was used for intervening years.

This electricity sales projection was then translated into net energy for load for use in IPM by multiplying the electricity sales by the ratio of net energy for load to total sales as found in AEO 2003. The resulting net energy for load values that were incorporated in v.2.1.6 are shown in the table below.

Net Energy for Load <sup>2</sup> in v.2.1.6	
Year	(Billions of kWh)
2005	3,865
2010	4,158
2015	4,474
2020	4,825

### **Notes**

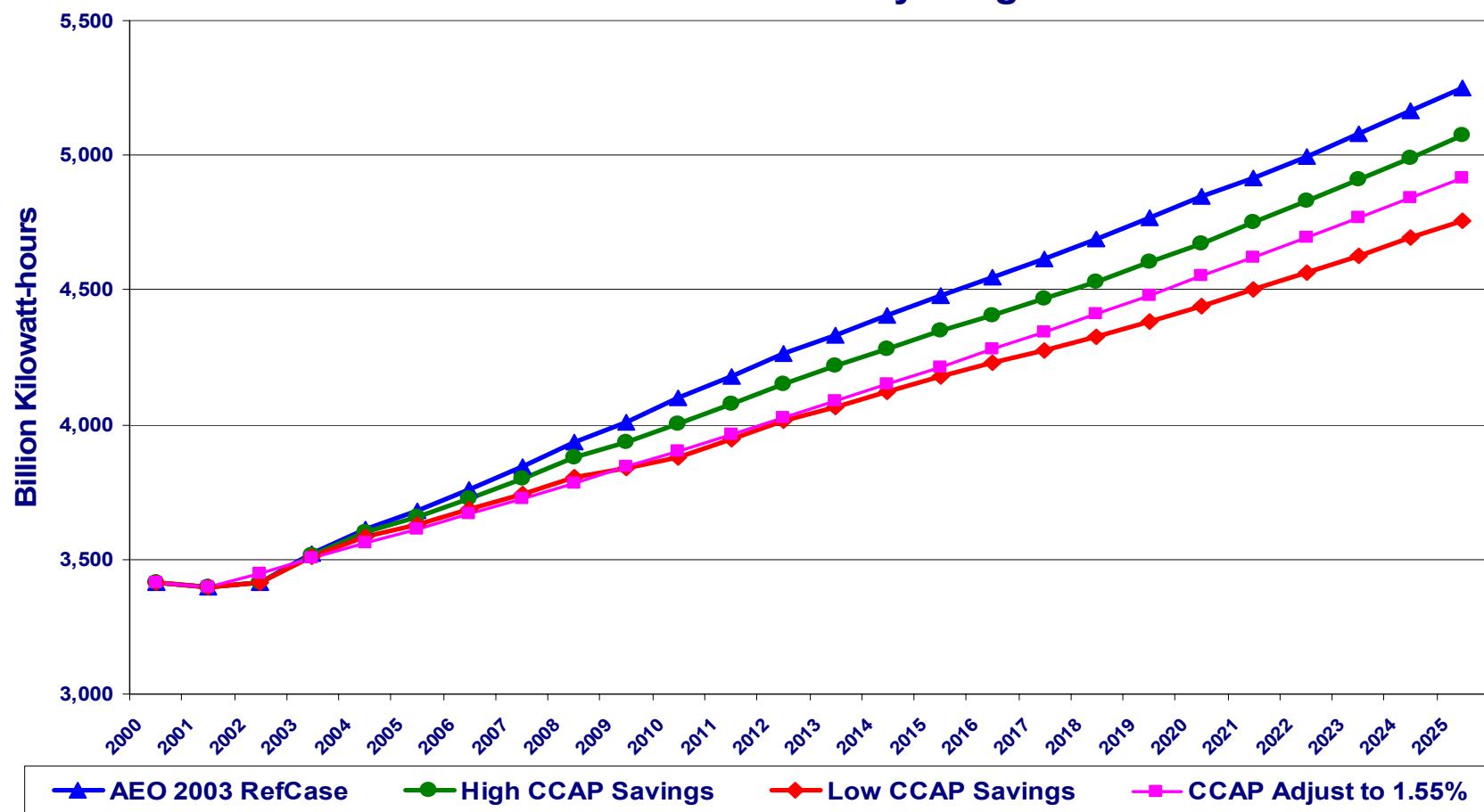
<sup>1</sup>See sections 3.2.1 and 3.2.2 in "Documentation of EPA Modeling Applications (V.2.1) Using the Integrated Planning Model" at [www.epa.gov/airmarkets/epa-ipm](http://www.epa.gov/airmarkets/epa-ipm).

<sup>2</sup>For specific runs built upon IPM Base Case 2000, the total national net energy for load resulting from the run may differ slightly from the assumptions shown in Table 3.2 due to the exports of electricity, imports, and computational rounding.

## Key Data for EPA Base Case v.2.1.6 Electricity Forecast

	2000	2005	2010	2015	2020	AAGR 2001-2020
<b>GDP AEO2003 (Bln \$1996)</b>	9,191	10,361	12,258	14,288	16,450	
<b>Electricity Sales (Billion kWh)</b>						
AEO2003 - Lower 48 (Table 73)	3,415	3,681	4,097	4,477	4,846	
IPM Initial RefCase without CCAP	3,415	3,681	4,097	4,477	4,846	1.86%
IPM w/CCAP at HighEIA Estimates	3,415	3,657	4,001	4,347	4,672	1.67%
IPM w/CCAP at EIA Feb 02 Estimates	3,415	3,632	3,899	4,241	4,565	1.57%
<b>IPM w/CCAP GrowthAdjust to 1.55%</b>	<b>3,415</b>	<b>3,614</b>	<b>3,902</b>	<b>4,214</b>	<b>4,551</b>	<b>1.55%</b>
IPM w/CCAP at Low EIA Estimates	3,415	3,631	3,880	4,177	4,440	1.40%
<b>Differential relative to Reference Case</b>						
Delta High CCAP Estimates	0	24	96	131	174	
Delta Mid CCAP Estimates 02-04-03	0	48	198	237	280	
Delta Low CCAP Estimates	0	49	218	300	406	
<b>Non-Included CCAP Savings (Bln kWh)</b>						
Net of High AEO2003 Estimates	0	64	137	171	214	
Net of Mid AEO2003 Estimates	0	150	300	338	382	
Net of Low AEO2003 Estimates	0	124	293	375	481	

## Electricity Sales Forecast as Adjusted for EPA and DOE Voluntary Programs



**Attachment C**  
**State Multipollutant Regulations Incorporated in v.2.1.6**

<b>State</b>	<b>Bill</b>	<b>Emission Type</b>	<b>Emission Specifications</b>	<b>Implemen-tation Date</b>	<b>Status</b>
Connecticut	Exec. Order 19	NOx	Winter (October-April) Emission rate of 0.15 lb/mmBtu for fossil units > 15 MW	2003	Retained from v.2.1
		SO <sub>2</sub>	Emission rate of 0.33 lb/mmBtu for fossil units > 15 MW. Title IV allowances/ERC's can be used until 2005, then all units must meet limit.	2003	Retained from v.2.1
Massachusetts	310 CMR 7.29	NOx	Emission rate of 1.5 lb/MWh for the 6 grandfathered units in state	2004	Added in v.2.1.6
		SO <sub>2</sub>	Emission rate of 3.0 lb/MWh for the 6 grandfathered units in state	2007	Added in v.2.1.6
		Hg	Included in bill but limits not yet decided		
		CO <sub>2</sub>	Emission rate of 1,800 lb/MWh for the 6 grandfathered units in state	2007	Added in v.2.1.6
Missouri	Title 10, Div 10, Ch 6.350	NOx	Summer season cap of 43,950 tons on all units > 25 MW	2003	Retained from v.2.1
New Hampshire	HB 284	NOx	Cap of 3,644 tons on all existing fossil steam units	2006	Added in v.2.1.6
		SO <sub>2</sub>	Cap of 7,289 tons on all existing fossil steam units	2006	Added in v.2.1.6
		Hg	No HG state emission cap on existing fossil steam units <sup>1</sup>	—	—
		CO <sub>2</sub>	Cap of 5,425,866 tons on all existing fossil steam units <sup>2</sup>	2006	Added in v.2.1.6

State	Bill	Emission Type	Emission Specifications	Implementation Date	Status
North Carolina	Clean Smokestacks Act	NOx	Cap of 56,000 tons on 14 coal-fired units belonging to Duke Power and CP&L >25MW	2009	Added in v.2.1.6
		SO <sub>2</sub>	Cap of 205,000 tons on 14 coal-fired units belonging to Duke Power and CP&L >25MW by 2009 and 130,000 tons by 2013 [Title IV allowances allocated to North Carolina units that exceed the State's cap will be retired from the federal program in IPM]	2009, 2013	Added in v.2.1.6
Texas	Senate Bill 7	NOx - East	50% reduction from 1997 baseline for all grandfathered fossil > 25MW [all of Texas traversed by or east of Rt 35]	2003	Added in v.2.1.6
	Senate Bill 7	NOx - West	50% reduction from 1997 baseline for all grandfathered fossil > 25MW [all of Texas not in East region or El Paso county]	2003	Added in v.2.1.6
	Senate Bill 7	NOx - El Paso	50% reduction from 1997 baseline for all grandfathered fossil > 25MW [El Paso county]	2003	Added in v.2.1.6
	Senate Bill 7	SO <sub>2</sub> - East	25% reduction from 1997 baseline for all grandfathered fossil > 25MW [all of Texas traversed by or east of Rt 35]	2003	Added in v.2.1.6
	Senate Bill 7	SO <sub>2</sub> - West	25% reduction from 1997 baseline for all grandfathered fossil > 25MW [all of Texas not in East region or El Paso county]	2003	Added in v.2.1.6
	Senate Bill 7	SO <sub>2</sub> - El Paso	25% reduction from 1997 baseline for all grandfathered fossil > 25MW [El Paso county]	2003	Added in v.2.1.6
	Ch. 117	NOx - Houston	Cap of 4,710 tons applied to all fossil units	2005	Retained from v.2.1
	Ch. 117	NOx - Dallas/Fort Worth	Cap of 2,164 tons applied to all fossil units	2005	Retained from v.2.1

<b>State</b>	<b>Bill</b>	<b>Emission Type</b>	<b>Emission Specifications</b>	<b>Implemen-tation Date</b>	<b>Status</b>
	Ch. 117	NOx - East/Central	Cap of 123,530 tons applied to all fossil units	2005	Retained from v.2.1
Wisconsin  <i>WEPCO owns 5 coal and 3 natural gas facilities affected by agreement</i>	Cooperative agreement between WEPCO and DNR  Wisconsin Dept of Natural Resources (PUB-AM-316 2001)	SO <sub>2</sub>	System-wide emission limit of .70 lb/mmBtu in 2007 and .45 lb/mmBtu in 2012	2007/2012	Added in v.2.1.6
		NOx	System-wide emission limit of .25 lb/mmBtu in 2007 and .15 lb/mmBtu in 2012	2007/2012	Added in v.2.1.6
		Hg	10% reduction from '98-'00 levels by 2007 and 50% reduction by 2012 <sup>3</sup>	2007/2012	Added 2007 and 2012 reduction levels in v.2.1.6.

Notes

1. New Hampshire's Hg emission limit: A proposal for an 82 lb Hg emission limit was under review with a decision expected in March 2004. It was not included in the Base Case v. 2.1.6 and its associated policy cases.
2. New Hampshire's CO<sub>2</sub> emission limit: New Hampshire originally set a CO<sub>2</sub> emission limit of 5,046,055 tons, which was later increased to 5,425,866 tons. (See [www.des.state.nh.us/testimony/2002/HB284](http://www.des.state.nh.us/testimony/2002/HB284).)
3. Wisconsin's Hg emission limit: An initial provision for a 90% Hg emission reduction in 2017 was subsequently dropped. (See Wisconsin Department of Natural Resources publication PUB-AM-316-2001.) Consequently, the 90% Hg emission reduction in 2017 was not included in Base Case v. 2.1.6 and its associated policy cases.

**Attachment D**  
**New Source Review (NSR) Settlements in v.2.1.6**

Company/Plant	Unit	Settlement Action							
		Retire/Repower		SO2			NOx		
		Action	Effective Date	Equipment	Removal Efficiency	Effective Date	Equipment	Rate (lbs/Mmbtu)	Effective Date
<b>TECO</b>									
Gannon	6 coal steam units	Repower to 550 MW Combined Cycle	2005						
Big Bend	Coal Steam Unit 1			Scrubber	95%	2005	Annual SCR	0.1	2010
	Coal Steam Unit 2			Scrubber	95%	2005	Annual SCR	0.1	2010
	Coal Steam Unit 3			Scrubber	95%	2005	Annual SCR	0.1	2010
	Coal Steam Unit 4			Scrubber	95%	2005	Annual SCR	0.1	2005
<b>PSEG</b>									
Mercer	Coal Steam Unit 1			Dry Scrubber	90%	2013	Annual SCR	0.084	2001
	Coal Steam Unit 2			Dry Scrubber	90%	2011	Annual SCR	0.084	2004
Hudson	Coal Steam Unit 2			Dry Scrubber	90%	2007	Annual SCR	0.046	2007

Note: Subsequent to the completion of v.2.1.6, an agreement was finalized with VEPCO which included a set of requirements for adding scrubbers and SCRs beyond those already in place. Equipment in place or being installed like the scrubbers and SCR controls at VEPCO's Mount Storm plant and previously announced actions like VEPCO's decision to repower Possum Point coal steam units 3 and 4 to natural gas combined cycle were included in v.2.1.6.

## **Attachment E**

**Emission Rate and Removal Assumptions  
For Potential (New) Units:  
Comparison of v.2.1 and v.2.1.6**

<b>Unit Type</b>	<b>Pollutant</b>	<b>Units</b>	<b>IPM, v2.1</b>	<b>IPM v.2.1.6</b>
Conventional Pulverized Coal	NOx	lb/mmBtu	0.05	0.11
Integrated Gasification Combined Cycle	NOx	lb/mmBtu	0.02	0.02
Combined Cycle	NOx	lb/mmBtu	0.02	0.02
Combustion Turbine	NOx	lb/mmBtu	0.1	0.08
Conventional Pulverized Coal	SO2	% removal	95%	95%
Integrated Gasification Combined Cycle	SO2	% removal	100%	99%

Notes

1. For increased analytical consistency, the emission rate and removal assumptions for IPM v.2.1.6 are the same as those used in AEO 2003.
2. IPM v. 2.1 is also called EPA Base Case 2000.

## **Attachment F**

**Emission Controls on Existing Units in v.2.1.6**

The following is an excerpt from the National Electric Energy Data System (NEEDS) showing the emission controls on existing coal and oil/gas steam electric generating units. Updated for v.2.1.6, NEEDS is the repository of data on all currently operating and planned/committed units represented in EPA's applications of the Integrated Planning Model. For ease of reference, entries in this attachment are sorted successively by unit type, state, plant name, and unit number. The full NEEDS, v.2.1.6 data base can be found on EPA's web page.

State Name	County	Plant Name	Unique Id	ORIS Code	BGCI	Unit ID	PeachanPlantType	Capacity MW	Post-CombControl	Wet/DryScrubber	SCRB_Type	PMatter_Type
Alabama	MOBILE	BARRY	3_B_1	3_B	1	Coal Steam	139.6000061	none			Hot-side ESP	
Alabama	MOBILE	BARRY	3_B_2	3_B	2	Coal Steam	138.6999969	none			Hot-side ESP	
Alabama	MOBILE	BARRY	3_B_3	3_B	3	Coal Steam	255.5	none			Hot-side ESP	
Alabama	MOBILE	BARRY	3_B_4	3_B	4	Coal Steam	362.2999878	none			Cold-side ESP	
Alabama	MOBILE	BARRY	3_B_5	3_B	5	Coal Steam	741	none			Cold-side ESP	
Alabama	WASHINGTON	CHARLES R LOWMAN	56_B_1	56_B	1	Coal Steam	80	none			Hot-side ESP	
Alabama	WASHINGTON	CHARLES R LOWMAN	56_B_2	56_B	2	Coal Steam	236.9199982	none	Wet Scrubber	Wet Lime FGD	Hot-side ESP	
Alabama	WASHINGTON	CHARLES R LOWMAN	56_B_3	56_B	3	Coal Steam	234.8500061	none	Wet Scrubber	Wet Lime FGD	Hot-side ESP	
Alabama	COLBERT	COLBERT	47_B_1	47_B	1	Coal Steam	178	none			Cold-side ESP	
Alabama	COLBERT	COLBERT	47_B_2	47_B	2	Coal Steam	178	none			Cold-side ESP	
Alabama	COLBERT	COLBERT	47_B_3	47_B	3	Coal Steam	178	none			Cold-side ESP	
Alabama	COLBERT	COLBERT	47_B_4	47_B	4	Coal Steam	178	none			Cold-side ESP	
Alabama	COLBERT	COLBERT	47_B_5	47_B	5	Coal Steam	467	SCR			Cold-side ESP	
Alabama	SHELBY	E C GASTON	26_B_1	26_B	1	Coal Steam	256	none			Hot-side ESP	
Alabama	SHELBY	E C GASTON	26_B_2	26_B	2	Coal Steam	257	none			Hot-side ESP	
Alabama	SHELBY	E C GASTON	26_B_3	26_B	3	Coal Steam	254	none			Hot-side ESP	
Alabama	SHELBY	E C GASTON	26_B_4	26_B	4	Coal Steam	256.7999878	none			Hot-side ESP	
Alabama	SHELBY	E C GASTON	26_B_5	26_B	5	Coal Steam	880	none			Hot-side ESP	
Alabama	ETOWAH	GADSDEN	7_B_1	7_B	1	Coal Steam	66.59999847	none			Cold-side ESP	
Alabama	ETOWAH	GADSDEN	7_B_2	7_B	2	Coal Steam	68.69999695	none			Cold-side ESP	
Alabama	WALKER	GORGAS	8_B_10	8_B	10	Coal Steam	737.4000244	SCR			Cold-side ESP	
Alabama	WALKER	GORGAS	8_B_6	8_B	6	Coal Steam	110.8000031	none			Cold-side ESP	
Alabama	WALKER	GORGAS	8_B_7	8_B	7	Coal Steam	113	none			Cold-side ESP	
Alabama	WALKER	GORGAS	8_B_8	8_B	8	Coal Steam	168.1000061	none			Hot-side ESP	
Alabama	WALKER	GORGAS	8_B_9	8_B	9	Coal Steam	179.1000061	none			Hot-side ESP	
Alabama	GREENE	GREENE COUNTY	10_B_1	10_B	1	Coal Steam	255	none			Hot-side ESP	
Alabama	GREENE	GREENE COUNTY	10_B_2	10_B	2	Coal Steam	255	none			Hot-side ESP	
Alabama	JEFFERSON	JAMES H MILLER JR	6002_B_1	6002_B	1	Coal Steam	670	none			Hot-side ESP	
Alabama	JEFFERSON	JAMES H MILLER JR	6002_B_2	6002_B	2	Coal Steam	669	none			Hot-side ESP	
Alabama	JEFFERSON	JAMES H MILLER JR	6002_B_3	6002_B	3	Coal Steam	675	SCR			Cold-side ESP	
Alabama	JEFFERSON	JAMES H MILLER JR	6002_B_4	6002_B	4	Coal Steam	666	SCR			Cold-side ESP	
Alabama	JACKSON	WIDOWS CREEK	50_B_1	50_B	1	Coal Steam	111	none			Cold-side ESP	
Alabama	JACKSON	WIDOWS CREEK	50_B_2	50_B	2	Coal Steam	111	none			Cold-side ESP	
Alabama	JACKSON	WIDOWS CREEK	50_B_3	50_B	3	Coal Steam	111	none			Cold-side ESP	
Alabama	JACKSON	WIDOWS CREEK	50_B_4	50_B	4	Coal Steam	111	none			Cold-side ESP	
Alabama	JACKSON	WIDOWS CREEK	50_B_5	50_B	5	Coal Steam	111	none			Cold-side ESP	
Alabama	JACKSON	WIDOWS CREEK	50_B_6	50_B	6	Coal Steam	111	none			Cold-side ESP	
Alabama	JACKSON	WIDOWS CREEK	50_B_7	50_B	7	Coal Steam	477	SCR	Wet Scrubber	Wet Limestone	Cold-side ESP	
Alabama	JACKSON	WIDOWS CREEK	50_B_8	50_B	8	Coal Steam	467	SCR	Wet Scrubber	Wet Limestone	Wet Scrubber	
Arizona	COCHISE	APACHE STATION	160_B_2	160_B	2	Coal Steam	175	none	Wet Scrubber	Wet Lime FGD	Hot-side ESP	
Arizona	COCHISE	APACHE STATION	160_B_3	160_B	3	Coal Steam	175	none	Wet Scrubber	Wet Lime FGD	Hot-side ESP	
Arizona	NAVAJO	CHOLLA	113_B_1	113_B	1	Coal Steam	110	none	Wet Scrubber	Wet Lime FGD	Wet Scrubber	
Arizona	NAVAJO	CHOLLA	113_B_2	113_B	2	Coal Steam	245	none	Wet Scrubber	Wet Lime FGD	Wet Scrubber	
Arizona	NAVAJO	CHOLLA	113_B_3	113_B	3	Coal Steam	260	none			Hot-side ESP	
Arizona	NAVAJO	CHOLLA	113_B_4	113_B	4	Coal Steam	380	none	Wet Scrubber	Wet Lime FGD	Hot-side ESP	
Arizona	APACHE	CORONADO	6177_B_U1B	6177_B	U1B	Coal Steam	365	none	Wet Scrubber	Wet Limestone	Hot-side ESP	
Arizona	APACHE	CORONADO	6177_B_U2B	6177_B	U2B	Coal Steam	365	none	Wet Scrubber	Wet Limestone	Hot-side ESP	
Arizona	PIMA	IRVINGTON	126_B_4	126_B	4	Coal Steam	156	none			Fabric Filter	
Arizona	COCONINO	NAVAJO	4941_B_1	4941_B	1	Coal Steam	750	none	Wet Scrubber	Wet Limestone	Hot-side ESP	
Arizona	COCONINO	NAVAJO	4941_B_2	4941_B	2	Coal Steam	750	none	Wet Scrubber	Wet Limestone	Hot-side ESP	
Arizona	COCONINO	NAVAJO	4941_B_3	4941_B	3	Coal Steam	750	none	Wet Scrubber	Wet Limestone	Hot-side ESP	
Arizona	APACHE	SPRINGERVILLE	8223_B_1	8223_B	1	Coal Steam	360	none	Dry Scrubber	Dry Lime FGD	Fabric Filter	
Arizona	APACHE	SPRINGERVILLE	8223_B_2	8223_B	2	Coal Steam	360	none	Dry Scrubber	Dry Lime FGD	Fabric Filter	
Arkansas	BENTON	FLINT CREEK	6138_B_1	6138_B	1	Coal Steam	480	none			Hot-side ESP	
Arkansas	INDEPENDENCE	INDEPENDENCE	6641_B_1	6641_B	1	Coal Steam	836	none			Cold-side ESP	
Arkansas	INDEPENDENCE	INDEPENDENCE	6641_B_2	6641_B	2	Coal Steam	842	none			Cold-side ESP	
Arkansas	JEFFERSON	WHITE BLUFF	6009_B_1	6009_B	1	Coal Steam	815	none			Cold-side ESP	
Arkansas	JEFFERSON	WHITE BLUFF	6009_B_2	6009_B	2	Coal Steam	844	none			Cold-side ESP	
California	San Joaquin	Stockton CoGen Company	10640_G_GEN1	10640_G	GEN1	Coal Steam	45.33559716	SNCR	Wet Scrubber	Fluidized Bed	Fabric Filter	
Colorado	DENVER	ARAPAHOE	465_B_3	465_B	3	Coal Steam	45	none			Fabric Filter	
Colorado	DENVER	ARAPAHOE	465_B_4	465_B	4	Coal Steam	111	none	Dry Scrubber	Dry Sorbent Injection	Fabric Filter	
Colorado	MESA	CAMEO	468_B_2	468_B	2	Coal Steam	49	none			Fabric Filter	
Colorado	ADAMS	CHEROKEE	469_B_1	469_B	1	Coal Steam	107	none	Dry Scrubber	Dry Sorbent Injection	Fabric Filter	
Colorado	ADAMS	CHEROKEE	469_B_2	469_B	2	Coal Steam	106	none			Fabric Filter	
Colorado	ADAMS	CHEROKEE	469_B_3	469_B	3	Coal Steam	158	none	Wet Scrubber	Lime Spray Dryer	Fabric Filter	
Colorado	ADAMS	CHEROKEE	469_B_4	469_B	4	Coal Steam	352	none	Wet Scrubber	Lime Spray Dryer	Fabric Filter	
Colorado	PUEBLO	COMANCHE	470_B_1	470_B	1	Coal Steam	325	none			Fabric Filter	
Colorado	PUEBLO	COMANCHE	470_B_2	470_B	2	Coal Steam	335	none			Fabric Filter	
Colorado	MOFFAT	CRAIG	6021_B_C1	6021_B	C1	Coal Steam	428	none	Wet Scrubber	Wet Limestone	Hot-side ESP	
Colorado	MOFFAT	CRAIG	6021_B_C2	6021_B	C2	Coal Steam	428	none	Wet Scrubber	Wet Limestone	Hot-side ESP	
Colorado	MOFFAT	CRAIG	6021_B_C3	6021_B	C3	Coal Steam	408	none	Dry Scrubber	Dry Lime FGD	Fabric Filter	
Colorado	ROUTT	HAYDEN	525_B_H1	525_B	H1	Coal Steam	184	none	Dry Scrubber	Dry Lime FGD	Fabric Filter	
Colorado	ROUTT	HAYDEN	525_B_H2	525_B	H2	Coal Steam	262	none	Dry Scrubber	Dry Lime FGD	Fabric Filter	
Colorado	EL PASO	MARTIN DRAKE	492_B_5	492_B	5	Coal Steam	47	none			Fabric Filter	
Colorado	EL PASO	MARTIN DRAKE	492_B_6	492_B	6	Coal Steam	79	none			Fabric Filter	
Colorado	EL PASO	MARTIN DRAKE	492_B_7	492_B	7	Coal Steam	133	none			Fabric Filter	
Colorado	MONROSE	NUCLA	527_B_1	527_B	1	Coal Steam	100	none	Dry Scrubber	Fluidized Bed Limestone Injection	Fabric Filter	
Colorado	MORGAN	PAWNEE	6248_B_1	6248_B	1	Coal Steam	495	none			Fabric Filter	

State Name	County	Plant Name	Unique Id	ORIS Code	BGCI	Unit ID	PeachanPlantType	Capacity MW	Post-CombControl	Wet/DryScrubber	SCRB_Type	PMatter_Type
Colorado	LARIMER	RAWHIDE	6761_B_101	6761_B	101		Coal Steam	262	none	Dry Scrubber	Dry Lime FGD	Fabric Filter
Colorado	EL PASO	RAY D NIXON	8219_B_1	8219_B	1		Coal Steam	208	none			Fabric Filter
Colorado	BOULDER	VALMONT	477_B_5	477_B	5		Coal Steam	178	none	Wet Scrubber	Lime Spray Dryer	Fabric Filter
Connecticut	New London	AES Thames Incorporated	10675_G_GEN1	10675_G	GEN1		Coal Steam	194.8041596	none	Wet Scrubber	Other	Other
Connecticut	FAIRFIELD	BRIDGEPORT HARBOR	568_B_BHB3	568_B	BHB3		Coal Steam	385	none			Cold-side ESP
Delaware	NEW CASTLE	EDGE MOOR	593_B_3	593_B	3		Coal Steam	84	SNCR			Cold-side ESP
Delaware	NEW CASTLE	EDGE MOOR	593_B_4	593_B	4		Coal Steam	167	SNCR			Cold-side ESP
Delaware	SUSSEX	INDIAN RIVER	594_B_1	594_B	1		Coal Steam	89	none			Cold-side ESP
Delaware	SUSSEX	INDIAN RIVER	594_B_2	594_B	2		Coal Steam	89	none			Cold-side ESP
Delaware	SUSSEX	INDIAN RIVER	594_B_3	594_B	3		Coal Steam	162	SNCR			Cold-side ESP
Delaware	SUSSEX	INDIAN RIVER	594_B_4	594_B	4		Coal Steam	403	SNCR			Cold-side ESP
Florida	HILLSBOROUGH	BIG BEND	645_B_BB01	645_B	BB01		Coal Steam	421	SCR	Wet Scrubber	Wet Limestone	Cold-side ESP
Florida	HILLSBOROUGH	BIG BEND	645_B_BB02	645_B	BB02		Coal Steam	421	SCR	Wet Scrubber	Wet Limestone	Cold-side ESP
Florida	HILLSBOROUGH	BIG BEND	645_B_BB03	645_B	BB03		Coal Steam	430	SCR	Wet Scrubber	Wet Limestone	Cold-side ESP
Florida	HILLSBOROUGH	BIG BEND	645_B_BB04	645_B	BB04		Coal Steam	439	SCR	Wet Scrubber	Wet Limestone	Cold-side ESP
Florida	POLK	C D MCINTOSH JR	676_B_3	676_B	3		Coal Steam	333	none	Wet Scrubber	Wet Limestone	Cold-side ESP
Florida	ESCAMBIA	CRIST	641_B_4	641_B	4		Coal Steam	88	none	Wet Scrubber	Other	Cold-side ESP
Florida	ESCAMBIA	CRIST	641_B_5	641_B	5		Coal Steam	87	none	Wet Scrubber	Other	Cold-side ESP
Florida	ESCAMBIA	CRIST	641_B_6	641_B	6		Coal Steam	327	none	Wet Scrubber	Other	Cold-side ESP
Florida	ESCAMBIA	CRIST	641_B_7	641_B	7		Coal Steam	517.0999756	none	Wet Scrubber	Other	Cold-side ESP
Florida	CITRUS	CRYSTAL RIVER	628_B_1	628_B	1		Coal Steam	369	none			Cold-side ESP
Florida	CITRUS	CRYSTAL RIVER	628_B_2	628_B	2		Coal Steam	464	none			Cold-side ESP
Florida	CITRUS	CRYSTAL RIVER	628_B_4	628_B	4		Coal Steam	697	none			Cold-side ESP
Florida	CITRUS	CRYSTAL RIVER	628_B_5	628_B	5		Coal Steam	697	none			Cold-side ESP
Florida	ALACHUA	DEERHAVEN	663_B_B2	663_B	B2		Coal Steam	218	none			Hot-side ESP
Florida	JACKSON	SCHOLZ	642_B_1	642_B	1		Coal Steam	46	none			Cold-side ESP
Florida	JACKSON	SCHOLZ	642_B_2	642_B	2		Coal Steam	46	none			Cold-side ESP
Florida	PUTNAM	SEMINOLE	136_B_1	136_B	1		Coal Steam	625	none	Wet Scrubber	Wet Limestone	Cold-side ESP
Florida	PUTNAM	SEMINOLE	136_B_2	136_B	2		Coal Steam	625	none	Wet Scrubber	Wet Limestone	Cold-side ESP
Florida	BAY	SMITH	643_B_1	643_B	1		Coal Steam	162	none	Wet Scrubber	Other	Cold-side ESP
Florida	BAY	SMITH	643_B_2	643_B	2		Coal Steam	193.6000061	none	Wet Scrubber	Other	Cold-side ESP
Florida	DUVAL	ST JOHNS RIVER POWER	207_B_1	207_B	1		Coal Steam	624	none	Wet Scrubber	Dual Alkali	Cold-side ESP
Florida	DUVAL	ST JOHNS RIVER POWER	207_B_2	207_B	2		Coal Steam	624	none	Wet Scrubber	Dual Alkali	Cold-side ESP
Florida	ORANGE	STANTON ENERGY	564_B_1	564_B	1		Coal Steam	441	none	Wet Scrubber	Wet Lime FGD	Cold-side ESP
Florida	ORANGE	STANTON ENERGY	564_B_2	564_B	2		Coal Steam	441	SCR	Wet Scrubber	Wet Lime FGD	Cold-side ESP
Georgia	BARTOW	BOWEN	703_B_1BLR	703_B	1BLR		Coal Steam	705.5999756	SCR			Cold-side ESP
Georgia	BARTOW	BOWEN	703_B_2BLR	703_B	2BLR		Coal Steam	704.5	SCR			Cold-side ESP
Georgia	BARTOW	BOWEN	703_B_3BLR	703_B	3BLR		Coal Steam	893	SCR			Cold-side ESP
Georgia	BARTOW	BOWEN	703_B_4BLR	703_B	4BLR		Coal Steam	913	SCR			Cold-side ESP
Georgia	FLOYD	HAMMOND	708_B_1	708_B	1		Coal Steam	111.6999969	none			Cold-side ESP
Georgia	FLOYD	HAMMOND	708_B_2	708_B	2		Coal Steam	107.1999969	none			Cold-side ESP
Georgia	FLOYD	HAMMOND	708_B_3	708_B	3		Coal Steam	110.8000031	none			Cold-side ESP
Georgia	FLOYD	HAMMOND	708_B_4	708_B	4		Coal Steam	505.3999939	SCR			Cold-side ESP
Georgia	PUTNAM	HARLLEE BRANCH	709_B_1	709_B	1		Coal Steam	255.3000031	none			Cold-side ESP
Georgia	PUTNAM	HARLLEE BRANCH	709_B_2	709_B	2		Coal Steam	319	none			Cold-side ESP
Georgia	PUTNAM	HARLLEE BRANCH	709_B_3	709_B	3		Coal Steam	494.3999939	none			Cold-side ESP
Georgia	PUTNAM	HARLLEE BRANCH	709_B_4	709_B	4		Coal Steam	496.3999939	none			Cold-side ESP
Georgia	COBB	JACK MCDONOUGH	710_B_MB1	710_B	MB1		Coal Steam	248	none			Cold-side ESP
Georgia	COBB	JACK MCDONOUGH	710_B_MB2	710_B	MB2		Coal Steam	248	none			Cold-side ESP
Georgia	CHATHAM	KRAFT	733_B_1	733_B	1		Coal Steam	52.09999847	none			Cold-side ESP
Georgia	CHATHAM	KRAFT	733_B_2	733_B	2		Coal Steam	55.29999924	none			Cold-side ESP
Georgia	CHATHAM	KRAFT	733_B_3	733_B	3		Coal Steam	109.1999969	none			Cold-side ESP
Georgia	EFFINGHAM	MCINTOSH	6124_B_1	6124_B	1		Coal Steam	172.3000031	none			Cold-side ESP
Georgia	DOUGHERTY	MITCHELL	727_B_3	727_B	3		Coal Steam	156.1999969	none			Cold-side ESP
Georgia	MONROE	SCHERER	6257_B_1	6257_B	1		Coal Steam	832.2000122	none			Hot-side ESP
Georgia	MONROE	SCHERER	6257_B_2	6257_B	2		Coal Steam	832.5	none			Hot-side ESP
Georgia	MONROE	SCHERER	6257_B_3	6257_B	3		Coal Steam	842.7999878	none			Cold-side ESP
Georgia	MONROE	SCHERER	6257_B_4	6257_B	4		Coal Steam	844	none			Cold-side ESP
Georgia	Heard	WANSLEY	6052_B_1	6052_B	1		Coal Steam	864	SCR			Cold-side ESP
Georgia	Heard	WANSLEY	6052_B_2	6052_B	2		Coal Steam	868.0999756	SCR			Cold-side ESP
Georgia	COWETA	YATES	728_B_Y1BR	728_B	Y1BR		Coal Steam	102.0999985	none	Wet Scrubber	Wet Lime FGD	Cold-side ESP
Georgia	COWETA	YATES	728_B_Y2BR	728_B	Y2BR		Coal Steam	100.1999969	none			Cold-side ESP
Georgia	COWETA	YATES	728_B_Y3BR	728_B	Y3BR		Coal Steam	112.5999985	none			Cold-side ESP
Georgia	COWETA	YATES	728_B_Y4BR	728_B	Y4BR		Coal Steam	130	none			Cold-side ESP
Georgia	COWETA	YATES	728_B_Y5BR	728_B	Y5BR		Coal Steam	132.5	none			Cold-side ESP
Georgia	COWETA	YATES	728_B_Y6BR	728_B	Y6BR		Coal Steam	347.2999878	none			Cold-side ESP
Georgia	COWETA	YATES	728_B_Y7BR	728_B	Y7BR		Coal Steam	345.5	none			Cold-side ESP
Illinois	RANDOLPH	BALDWIN	889_B_1	889_B	1		Coal Steam	575	none			Cold-side ESP
Illinois	RANDOLPH	BALDWIN	889_B_2	889_B	2		Coal Steam	581	none			Cold-side ESP
Illinois	RANDOLPH	BALDWIN	889_B_3	889_B	3		Coal Steam	595	none			Cold-side ESP
Illinois	MONTGOMERY	COFFEEEN	861_B_01	861_B	01		Coal Steam	340	none			Cold-side ESP
Illinois	MONTGOMERY	COFFEEEN	861_B_02	861_B	02		Coal Steam	560	none			Cold-side ESP
Illinois	COOK	CRAWFORD	867_B_7	867_B	7		Coal Steam	213	none			Cold-side ESP
Illinois	COOK	CRAWFORD	867_B_8	867_B	8		Coal Steam	319	none			Cold-side ESP
Illinois	SANGAMON	DALLMAN	963_B_31	963_B	31		Coal Steam	87.5	none	Wet Scrubber	Wet Limestone	Hot-side ESP
Illinois	SANGAMON	DALLMAN	963_B_32	963_B	32		Coal Steam	86	none	Wet Scrubber	Wet Limestone	Cold-side ESP
Illinois	SANGAMON	DALLMAN	963_B_33	963_B	33		Coal Steam	190	none	Wet Scrubber		Cold-side ESP
Illinois	FULTON	DUCK CREEK	6016_B_1	6016_B	1		Coal Steam	366	none	Wet Scrubber	Venturi type	Cold-side ESP

State Name	County	Plant Name	Unique Id	ORIS Code	BGCI	Unit ID	PeachanPlantType	Capacity MW	Post-CombControl	Wet/DryScrubber	SCRB_Type	PMatter_Type
Illinois	PEORIA	E D EDWARDS	856_B_1	856	B	1	Coal Steam	117	none		Cold-side ESP	
Illinois	PEORIA	E D EDWARDS	856_B_2	856	B	2	Coal Steam	262	none		Cold-side ESP	
Illinois	PEORIA	E D EDWARDS	856_B_3	856	B	3	Coal Steam	361	none		Cold-side ESP	
Illinois	COOK	FISK	886_B_19	886	B	19	Coal Steam	316	none		Cold-side ESP	
Illinois	MASON	HAVANA	891_B_9	891	B	9	Coal Steam	428	none		Hot-side ESP	
Illinois	PUTNAM	HENNEPIN	892_B_1	892	B	1	Coal Steam	74	none		Cold-side ESP	
Illinois	PUTNAM	HENNEPIN	892_B_2	892	B	2	Coal Steam	215	none		Cold-side ESP	
Illinois	CRAWFORD	HUTSONVILLE	863_B_05	863	B	05	Coal Steam	76	none		Cold-side ESP	
Illinois	CRAWFORD	HUTSONVILLE	863_B_06	863	B	06	Coal Steam	77	none		Cold-side ESP	
Illinois	WILL	JOLIET 29	384_B_71	384	B	71	Coal Steam	274.9212646	none		Cold-side ESP	
Illinois	WILL	JOLIET 29	384_B_72	384	B	72	Coal Steam	224.0787659	none		Cold-side ESP	
Illinois	WILL	JOLIET 29	384_B_81	384	B	81	Coal Steam	254.3989105	none		Cold-side ESP	
Illinois	WILL	JOLIET 29	384_B_82	384	B	82	Coal Steam	263.6010742	none		Cold-side ESP	
Illinois	WILL	JOLIET 9	874_B_5	874	B	5	Coal Steam	292	Fuel Reburning		Cold-side ESP	
Illinois	MASSAC	JOPPA STEAM	887_B_1	887	B	1	Coal Steam	169	none		Cold-side ESP	
Illinois	MASSAC	JOPPA STEAM	887_B_2	887	B	2	Coal Steam	169	none		Cold-side ESP	
Illinois	MASSAC	JOPPA STEAM	887_B_3	887	B	3	Coal Steam	169	none		Cold-side ESP	
Illinois	MASSAC	JOPPA STEAM	887_B_4	887	B	4	Coal Steam	169	none		Cold-side ESP	
Illinois	MASSAC	JOPPA STEAM	887_B_5	887	B	5	Coal Steam	169	none		Cold-side ESP	
Illinois	MASSAC	JOPPA STEAM	887_B_6	887	B	6	Coal Steam	169	none		Cold-side ESP	
Illinois	CHRISTIAN	KINCAID	876_B_1	876	B	1	Coal Steam	554	none		Cold-side ESP	
Illinois	CHRISTIAN	KINCAID	876_B_2	876	B	2	Coal Steam	554	SCR		Cold-side ESP	
Illinois	SANGAMON	LAKESIDE	964_B_7	964	B	7	Coal Steam	39.79999924	none		Hot-side ESP	
Illinois	SANGAMON	LAKESIDE	964_B_8	964	B	8	Coal Steam	39.70000076	none		Hot-side ESP	
Illinois	WILLIAMSON	MARION	976_B_1	976	B	1	Coal Steam	34	none		Hot-side ESP	
Illinois	WILLIAMSON	MARION	976_B_2	976	B	2	Coal Steam	34	none		Hot-side ESP	
Illinois	WILLIAMSON	MARION	976_B_3	976	B	3	Coal Steam	34	none		Hot-side ESP	
Illinois	WILLIAMSON	MARION	976_B_4	976	B	4	Coal Steam	170	none	Wet Scrubber	Wet Limestone	Cold-side ESP
Illinois	MORGAN	MEREDOSIA	864_B_01	864	B	01	Coal Steam	31	none			Cold-side ESP
Illinois	MORGAN	MEREDOSIA	864_B_02	864	B	02	Coal Steam	31	none			Cold-side ESP
Illinois	MORGAN	MEREDOSIA	864_B_03	864	B	03	Coal Steam	31	none			Cold-side ESP
Illinois	MORGAN	MEREDOSIA	864_B_04	864	B	04	Coal Steam	31	none			Cold-side ESP
Illinois	MORGAN	MEREDOSIA	864_B_05	864	B	05	Coal Steam	215	none			Cold-side ESP
Illinois	JASPER	NEWTON	6017_B_1	6017	B	1	Coal Steam	555	none			Cold-side ESP
Illinois	JASPER	NEWTON	6017_B_2	6017	B	2	Coal Steam	555	none			Cold-side ESP
Illinois	PIKE	PEARL STATION	6238_B_1A	6238	B	1A	Coal Steam	22	none	Wet Scrubber	Venturi type	
Illinois	TAZEWELL	POWERTON	879_B_51	879	B	51	Coal Steam	352.1134949	none			Cold-side ESP
Illinois	TAZEWELL	POWERTON	879_B_52	879	B	52	Coal Steam	347.8865356	none			Cold-side ESP
Illinois	TAZEWELL	POWERTON	879_B_61	879	B	61	Coal Steam	348.6277771	none			Cold-side ESP
Illinois	TAZEWELL	POWERTON	879_B_62	879	B	62	Coal Steam	351.3722229	none			Cold-side ESP
Illinois	Cook	Robbins Resource Recovery Facility	52045_G_GEN1	52045	G	GEN1	Coal Steam	42.47781446	SNCR	Wet Scrubber	Wet Lime FGD	Fabric Filter
Illinois	VERMILION	VERMILION	897_B_1	897	B	1	Coal Steam	74	none			Cold-side ESP
Illinois	VERMILION	VERMILION	897_B_2	897	B	2	Coal Steam	102	none			Cold-side ESP
Illinois	LAKE	WAUKEGAN	883_B_17	883	B	17	Coal Steam	100	none			Cold-side ESP
Illinois	LAKE	WAUKEGAN	883_B_7	883	B	7	Coal Steam	328	none			Hot-side ESP
Illinois	LAKE	WAUKEGAN	883_B_8	883	B	8	Coal Steam	297	none			Cold-side ESP
Illinois	WILL	WILL COUNTY	884_B_1	884	B	1	Coal Steam	151	none			Cold-side ESP
Illinois	WILL	WILL COUNTY	884_B_2	884	B	2	Coal Steam	148	none			Cold-side ESP
Illinois	WILL	WILL COUNTY	884_B_3	884	B	3	Coal Steam	251	none			Hot-side ESP
Illinois	WILL	WILL COUNTY	884_B_4	884	B	4	Coal Steam	510	none			Cold-side ESP
Illinois	MADISON	WOOD RIVER	898_B_4	898	B	4	Coal Steam	96	none			Hot-side ESP
Illinois	MADISON	WOOD RIVER	898_B_5	898	B	5	Coal Steam	372	none			Cold-side ESP
Indiana	POSEY	A B BROWN	6137_B_1	6137	B	1	Coal Steam	250	SCR	Wet Scrubber		Cold-side ESP
Indiana	POSEY	A B BROWN	6137_B_2	6137	B	2	Coal Steam	250	SCR	Wet Scrubber		Cold-side ESP
Indiana	PORTER	BAILLY	995_B_7	995	B	7	Coal Steam	160	none	Wet Scrubber	Wet Limestone	Cold-side ESP
Indiana	PORTER	BAILLY	995_B_8	995	B	8	Coal Steam	320	none	Wet Scrubber	Wet Limestone	Cold-side ESP
Indiana	VERMILLION	CAYUGA	1001_B_1	1001	B	1	Coal Steam	500	none			Cold-side ESP
Indiana	VERMILLION	CAYUGA	1001_B_2	1001	B	2	Coal Steam	474	none			Cold-side ESP
Indiana	JEFFERSON	CLIFTY CREEK	983_B_1	983	B	1	Coal Steam	209	SCR			Cold-side ESP
Indiana	JEFFERSON	CLIFTY CREEK	983_B_2	983	B	2	Coal Steam	206	SCR			Cold-side ESP
Indiana	JEFFERSON	CLIFTY CREEK	983_B_3	983	B	3	Coal Steam	209	SCR			Cold-side ESP
Indiana	JEFFERSON	CLIFTY CREEK	983_B_4	983	B	4	Coal Steam	187	SCR			Cold-side ESP
Indiana	JEFFERSON	CLIFTY CREEK	983_B_5	983	B	5	Coal Steam	211	SCR			Cold-side ESP
Indiana	JEFFERSON	CLIFTY CREEK	983_B_6	983	B	6	Coal Steam	195	none			Hot-side ESP
Indiana	LAKE	DEAN H MITCHELL	996_B_11	996	B	11	Coal Steam	110	none			Cold-side ESP
Indiana	LAKE	DEAN H MITCHELL	996_B_4	996	B	4	Coal Steam	125	none			Cold-side ESP
Indiana	LAKE	DEAN H MITCHELL	996_B_5	996	B	5	Coal Steam	125	none			Cold-side ESP
Indiana	LAKE	DEAN H MITCHELL	996_B_6	996	B	6	Coal Steam	125	none			Cold-side ESP
Indiana	KNOX	EDWARDSPORT	1004_B_7-1	1004	B	7-1	Coal Steam	40	none			Cold-side ESP
Indiana	KNOX	EDWARDSPORT	1004_B_7-2	1004	B	7-2	Coal Steam	40	none			Cold-side ESP
Indiana	KNOX	EDWARDSPORT	1004_B_8-1	1004	B	8-1	Coal Steam	40	none			Cold-side ESP
Indiana	MARION	ELMER W STOUT	990_B_50	990	B	50	Coal Steam	106	none			Cold-side ESP
Indiana	MARION	ELMER W STOUT	990_B_60	990	B	60	Coal Steam	106	none			Cold-side ESP
Indiana	MARION	ELMER W STOUT	990_B_70	990	B	70	Coal Steam	422	none			Cold-side ESP
Indiana	WARRICK	F B CULLEY	1012_B_1	1012	B	1	Coal Steam	46	none			Cold-side ESP
Indiana	WARRICK	F B CULLEY	1012_B_2	1012	B	2	Coal Steam	90	none	Wet Scrubber	Wet Limestone	Cold-side ESP
Indiana	WARRICK	F B CULLEY	1012_B_3	1012	B	3	Coal Steam	250	SCR	Wet Scrubber		Cold-side ESP
Indiana	PIKE	FRANK E RATTS	1043_B_1SG1	1043	B	1SG1	Coal Steam	122	none			Cold-side ESP

State Name	County	Plant Name	Unique Id	ORIS Code	BGCI	Unit ID	PeachanPlantType	Capacity MW	Post-CombControl	Wet/DryScrubber	SCRB_Type	PMatter_Type
Indiana	PIKE	FRANK E RATTS	1043_B_2SG1	1043_B	2SG1		Coal Steam	121	none			Cold-side ESP
Indiana	GIBSON	GIBSON	6113_B_1	6113_B	1		Coal Steam	630	SCR			Cold-side ESP
Indiana	GIBSON	GIBSON	6113_B_2	6113_B	2		Coal Steam	630	SCR			Cold-side ESP
Indiana	GIBSON	GIBSON	6113_B_3	6113_B	3		Coal Steam	630	SCR			Cold-side ESP
Indiana	GIBSON	GIBSON	6113_B_4	6113_B	4		Coal Steam	615	SCR	Wet Scrubber		Cold-side ESP
Indiana	GIBSON	GIBSON	6113_B_5	6113_B	5		Coal Steam	618.7509766	SCR	Wet Scrubber		Cold-side ESP
Indiana	MORGAN	H T PRITCHARD	991_B_3	991_B	3		Coal Steam	43	none			Cold-side ESP
Indiana	MORGAN	H T PRITCHARD	991_B_4	991_B	4		Coal Steam	56	none			Hot-side ESP
Indiana	MORGAN	H T PRITCHARD	991_B_5	991_B	5		Coal Steam	62	none			Cold-side ESP
Indiana	MORGAN	H T PRITCHARD	991_B_6	991_B	6		Coal Steam	99	none			Cold-side ESP
Indiana	CASS	LOGANSPORT	1032_B_5	1032_B	5		Coal Steam	16.5	none			Hot-side ESP
Indiana	CASS	LOGANSPORT	1032_B_6	1032_B	6		Coal Steam	22	none			Hot-side ESP
Indiana	SULLIVAN	MEROM	6213_B_1SG1	6213_B	1SG1		Coal Steam	507	none	Wet Scrubber	Wet Limestone	Cold-side ESP
Indiana	SULLIVAN	MEROM	6213_B_2SG1	6213_B	2SG1		Coal Steam	493	none	Wet Scrubber	Wet Limestone	Cold-side ESP
Indiana	LAPORTE	MICHIGAN CITY	997_B_12	997_B	12		Coal Steam	469	none			Cold-side ESP
Indiana	HAMILTON	NOBLESVILLE	1007_B_1	1007_B	1		Coal Steam	30	none			Cold-side ESP
Indiana	HAMILTON	NOBLESVILLE	1007_B_2	1007_B	2		Coal Steam	30	none			Cold-side ESP
Indiana	HAMILTON	NOBLESVILLE	1007_B_3	1007_B	3		Coal Steam	30	none			Cold-side ESP
Indiana	PIKE	PETERSBURG	994_B_1	994_B	1		Coal Steam	232	none	Wet Scrubber	Wet Limestone	Cold-side ESP
Indiana	PIKE	PETERSBURG	994_B_2	994_B	2		Coal Steam	407	none	Wet Scrubber	Wet Limestone	Cold-side ESP
Indiana	PIKE	PETERSBURG	994_B_3	994_B	3		Coal Steam	510	none	Wet Scrubber	Wet Limestone	Cold-side ESP
Indiana	PIKE	PETERSBURG	994_B_4	994_B	4		Coal Steam	515	none	Wet Scrubber	Wet Limestone	Cold-side ESP
Indiana	FLOYD	R GALLAGHER	1008_B_1	1008_B	1		Coal Steam	140	none			Cold-side ESP + Fabric Filter
Indiana	FLOYD	R GALLAGHER	1008_B_2	1008_B	2		Coal Steam	140	none			Cold-side ESP + Fabric Filter
Indiana	FLOYD	R GALLAGHER	1008_B_3	1008_B	3		Coal Steam	140	none			Cold-side ESP + Fabric Filter
Indiana	FLOYD	R GALLAGHER	1008_B_4	1008_B	4		Coal Steam	140	none			Cold-side ESP + Fabric Filter
Indiana	JASPER	R M SCHAFER	6085_B_14	6085_B	14		Coal Steam	431	none			Cold-side ESP
Indiana	JASPER	R M SCHAFER	6085_B_15	6085_B	15		Coal Steam	472	none			Cold-side ESP
Indiana	JASPER	R M SCHAFER	6085_B_17	6085_B	17		Coal Steam	361	none	Wet Scrubber	Wet Limestone	Cold-side ESP
Indiana	JASPER	R M SCHAFER	6085_B_18	6085_B	18		Coal Steam	361	none	Wet Scrubber	Wet Limestone	Cold-side ESP
Indiana	SPENCER	ROCKPORT	6166_B_MB1	6166_B	MB1		Coal Steam	1300	none			Cold-side ESP
Indiana	SPENCER	ROCKPORT	6166_B_MB2	6166_B	MB2		Coal Steam	1300	none			Cold-side ESP
Indiana	LAKE	STATE LINE	981_B_3	981_B	3		Coal Steam	187	none			Fabric Filter
Indiana	LAKE	STATE LINE	981_B_4	981_B	4		Coal Steam	303	none			Cold-side ESP
Indiana	DEARBORN	TANNERS CREEK	988_B_U1	988_B	U1		Coal Steam	140	none			Cold-side ESP
Indiana	DEARBORN	TANNERS CREEK	988_B_U2	988_B	U2		Coal Steam	140	none			Cold-side ESP
Indiana	DEARBORN	TANNERS CREEK	988_B_U3	988_B	U3		Coal Steam	200	none			Cold-side ESP
Indiana	DEARBORN	TANNERS CREEK	988_B_U4	988_B	U4		Coal Steam	500	none			Cold-side ESP
Indiana	VIGO	WABASH RIVER	1010_B_1	1010_B	1		Coal Steam	85	none	Wet Scrubber	Other	Cold-side ESP
Indiana	VIGO	WABASH RIVER	1010_B_2	1010_B	2		Coal Steam	85	none			Cold-side ESP
Indiana	VIGO	WABASH RIVER	1010_B_3	1010_B	3		Coal Steam	85	none			Cold-side ESP
Indiana	VIGO	WABASH RIVER	1010_B_4	1010_B	4		Coal Steam	85	none			Cold-side ESP
Indiana	VIGO	WABASH RIVER	1010_B_5	1010_B	5		Coal Steam	95	none			Cold-side ESP
Indiana	VIGO	WABASH RIVER	1010_B_6	1010_B	6		Coal Steam	318	none			Cold-side ESP
Indiana	WARRICK	WARRICK	6705_B_4	6705_B	4		Coal Steam	135	none			Cold-side ESP
Indiana	WAYNE	WHITEWATER VALLEY	1040_B_1	1040_B	1		Coal Steam	34.774	none			Cold-side ESP
Indiana	WAYNE	WHITEWATER VALLEY	1040_B_2	1040_B	2		Coal Steam	62.80500031	none	Dry Scrubber	Spray Dryer type	Hot-side ESP
Iowa	STORY	AMES	1122_B_7	1122_B	7		Coal Steam	30	none			Cold-side ESP
Iowa	STORY	AMES	1122_B_8	1122_B	8		Coal Steam	65	none			Hot-side ESP
Iowa	DES MOINES	BURLINGTON	1104_B_1	1104_B	1		Coal Steam	211	none			Cold-side ESP
Iowa	POTTAWATTAMIE	COUNCIL BLUFFS	1082_B_1	1082_B	1		Coal Steam	43	none			Hot-side ESP
Iowa	POTTAWATTAMIE	COUNCIL BLUFFS	1082_B_2	1082_B	2		Coal Steam	88	none			Hot-side ESP
Iowa	POTTAWATTAMIE	COUNCIL BLUFFS	1082_B_3	1082_B	3		Coal Steam	637.2050171	none			Cold-side ESP
Iowa	DUBUQUE	DUBUQUE	1046_B_1	1046_B	1		Coal Steam	35	none			Hot-side ESP
Iowa	DUBUQUE	DUBUQUE	1046_B_5	1046_B	5		Coal Steam	30	none			Hot-side ESP
Iowa	CLAY	EARL F WISDOM	1217_B_1	1217_B	1		Coal Steam	38.5	none			Cold-side ESP
Iowa	MUSCATINE	FAIR STATION	1218_B_2	1218_B	2		Coal Steam	41	none			Hot-side ESP
Iowa	WOODBURY	GEORGE NEAL NORTH	1091_B_1	1091_B	1		Coal Steam	135	none			Hot-side ESP
Iowa	WOODBURY	GEORGE NEAL NORTH	1091_B_2	1091_B	2		Coal Steam	300	none			Cold-side ESP
Iowa	WOODBURY	GEORGE NEAL NORTH	1091_B_3	1091_B	3		Coal Steam	370.7999878	none			Cold-side ESP
Iowa	WOODBURY	GEORGE NEAL SOUTH	7343_B_4	7343_B	4		Coal Steam	624	none			Cold-side ESP
Iowa	ALLAMAKEE	LANSING	1047_B_1	1047_B	1		Coal Steam	15.5	none			Cold-side ESP
Iowa	ALLAMAKEE	LANSING	1047_B_2	1047_B	2		Coal Steam	10.7	none			Cold-side ESP
Iowa	ALLAMAKEE	LANSING	1047_B_3	1047_B	3		Coal Steam	33.79999924	none			Cold-side ESP
Iowa	ALLAMAKEE	LANSING	1047_B_4	1047_B	4		Coal Steam	260	none			Hot-side ESP
Iowa	LOUISA	LOUISA	6664_B_101	6664_B	101		Coal Steam	644	none			Hot-side ESP
Iowa	CLINTON	MILTON L KAPP	1048_B_2	1048_B	2		Coal Steam	217	none	Wet Scrubber	Other	Cold-side ESP
Iowa	MUSCATINE	MUSCATINE	1167_B_7	1167_B	7		Coal Steam	25.60000038	none			Cold-side ESP
Iowa	MUSCATINE	MUSCATINE	1167_B_8	1167_B	8		Coal Steam	76.25	none			Cold-side ESP
Iowa	MUSCATINE	MUSCATINE	1167_B_9	1167_B	9		Coal Steam	161	none	Wet Scrubber	Wet Limestone	Cold-side ESP
Iowa	WAPELLO	OTTUMWA	6254_B_1	6254_B	1		Coal Steam	714	none			Hot-side ESP
Iowa	MARION	PELLA	1175_B_6	1175_B	6		Coal Steam	15.57541466	none			Hot-side ESP
Iowa	MARION	PELLA	1175_B_7	1175_B	7		Coal Steam	20.11222458	none			Hot-side ESP
Iowa	LINN	PRAIRIE CREEK	1073_B_1	1073_B	1		Coal Steam	9.7	none			Hot-side ESP
Iowa	LINN	PRAIRIE CREEK	1073_B_2	1073_B	2		Coal Steam	9.7	none			Hot-side ESP
Iowa	LINN	PRAIRIE CREEK	1073_B_3	1073_B	3		Coal Steam	49	none			Hot-side ESP
Iowa	LINN	PRAIRIE CREEK	1073_B_4	1073_B	4		Coal Steam	142	none			Hot-side ESP
Iowa	SCOTT	RIVERSIDE	1081_B_6	1081_B	6		Coal Steam	1.470588235	none			Cold-side ESP

State Name	County	Plant Name	Unique Id	ORIS Code	BGCI	Unit ID	PeachanPlantType	Capacity MW	Post-CombControl	Wet/DryScrubber	SCRB_Type	PMatter_Type
Iowa	SCOTT	RIVERSIDE	1081_B_7	1081_B	7	Coal Steam	1.764705882	none			Cold-side ESP	
Iowa	SCOTT	RIVERSIDE	1081_B_8	1081_B	8	Coal Steam	1.764705882	none			Cold-side ESP	
Iowa	SCOTT	RIVERSIDE	1081_B_9	1081_B	9	Coal Steam	130	none			Cold-side ESP	
Iowa	LINN	SIXTH STREET	1058_B_2	1058_B	2	Coal Steam	19.025	none	Wet Scrubber	Other	Hot-side ESP	
Iowa	LINN	SIXTH STREET	1058_B_3	1058_B	3	Coal Steam	19.025	none	Wet Scrubber	Other	Hot-side ESP	
Iowa	LINN	SIXTH STREET	1058_B_4	1058_B	4	Coal Steam	19.025	none	Wet Scrubber	Other	Hot-side ESP	
Iowa	LINN	SIXTH STREET	1058_B_5	1058_B	5	Coal Steam	19.025	none	Wet Scrubber	Other	Hot-side ESP	
Iowa	BLACK HAWK	STREETER STATION	1131_B_7	1131_B	7	Coal Steam	36.59999847	none			Hot-side ESP	
Iowa	MARSHALL	SUTHERLAND	1077_B_1	1077_B	1	Coal Steam	31	none			Cold-side ESP	
Iowa	MARSHALL	SUTHERLAND	1077_B_2	1077_B	2	Coal Steam	31	none			Cold-side ESP	
Iowa	MARSHALL	SUTHERLAND	1077_B_3	1077_B	3	Coal Steam	80	none			Cold-side ESP	
Kansas	FINNEY	HOLCOMB	108_B_SGU1	108_B	SGU1	Coal Steam	331	none	Dry Scrubber	Dry Lime FGD	Fabric Filter	
Kansas	POTTAWATOMIE	JEFFREY ENERGY CENTE	6068_B_1	6068_B	1	Coal Steam	698	none	Wet Scrubber	Wet Limestone	Cold-side ESP	
Kansas	POTTAWATOMIE	JEFFREY ENERGY CENTE	6068_B_2	6068_B	2	Coal Steam	735	none	Wet Scrubber	Wet Limestone	Cold-side ESP	
Kansas	POTTAWATOMIE	JEFFREY ENERGY CENTE	6068_B_3	6068_B	3	Coal Steam	703	none	Wet Scrubber	Wet Limestone	Cold-side ESP	
Kansas	WYANDOTTE	KAW	1294_B_1	1294_B	1	Coal Steam	37	none			Fabric Filter	
Kansas	WYANDOTTE	KAW	1294_B_3	1294_B	3	Coal Steam	55	none			Fabric Filter	
Kansas	LINN	LA CYGNE	1241_B_1	1241_B	1	Coal Steam	682	none	Wet Scrubber	Wet Limestone	Wet Scrubber	
Kansas	LINN	LA CYGNE	1241_B_2	1241_B	2	Coal Steam	668	none	Wet Scrubber	Other	Cold-side ESP	
Kansas	DOUGLAS	LAWRENCE	1250_B_3	1250_B	3	Coal Steam	56	none			Cold-side ESP	
Kansas	DOUGLAS	LAWRENCE	1250_B_4	1250_B	4	Coal Steam	113	none	Wet Scrubber	Wet FGD	Wet Scrubber	
Kansas	DOUGLAS	LAWRENCE	1250_B_5	1250_B	5	Coal Steam	370	none	Wet Scrubber	Wet Limestone	Wet Scrubber	
Kansas	WYANDOTTE	NEARMAN CREEK	6064_B_N1	6064_B	N1	Coal Steam	235	none			Cold-side ESP	
Kansas	WYANDOTTE	QUINDARO	1295_B_1	1295_B	1	Coal Steam	73	none			Cold-side ESP	
Kansas	WYANDOTTE	QUINDARO	1295_B_2	1295_B	2	Coal Steam	135	none			Cold-side ESP	
Kansas	CHEROKEE	RIVERTON	1239_B_39	1239_B	39	Coal Steam	38	none			Cold-side ESP	
Kansas	CHEROKEE	RIVERTON	1239_B_40	1239_B	40	Coal Steam	54	none			Cold-side ESP	
Kansas	SHAWNEE	TECUMSEH	1252_B_10	1252_B	10	Coal Steam	148	none			Cold-side ESP	
Kansas	SHAWNEE	TECUMSEH	1252_B_9	1252_B	9	Coal Steam	88	none			Cold-side ESP	
Kentucky	LAWRENCE	BIG SANDY	1353_B_BSU1	1353_B	BSU1	Coal Steam	260	none			Cold-side ESP	
Kentucky	LAWRENCE	BIG SANDY	1353_B_BSU2	1353_B	BSU2	Coal Steam	800	SCR			Cold-side ESP	
Kentucky	JEFFERSON	CANE RUN	1363_B_4	1363_B	4	Coal Steam	155	none	Wet Scrubber	Wet Lime FGD	Cold-side ESP	
Kentucky	JEFFERSON	CANE RUN	1363_B_5	1363_B	5	Coal Steam	168	none	Wet Scrubber	Wet Lime FGD	Cold-side ESP	
Kentucky	JEFFERSON	CANE RUN	1363_B_6	1363_B	6	Coal Steam	240	none	Wet Scrubber	Wet Lime FGD	Cold-side ESP	
Kentucky	HANCOCK	COLEMAN	1381_B_C1	1381_B	C1	Coal Steam	148.5819972	none			Cold-side ESP	
Kentucky	HANCOCK	COLEMAN	1381_B_C2	1381_B	C2	Coal Steam	148.5819972	none			Cold-side ESP	
Kentucky	HANCOCK	COLEMAN	1381_B_C3	1381_B	C3	Coal Steam	153.5347304	none			Cold-side ESP	
Kentucky	PULASKI	COOPER	1384_B_1	1384_B	1	Coal Steam	116	none			Cold-side ESP	
Kentucky	PULASKI	COOPER	1384_B_2	1384_B	2	Coal Steam	225	SCR			Cold-side ESP	
Kentucky	OHIO	D B WILSON	6823_B_W1	6823_B	W1	Coal Steam	416.0636248	SCR	Wet Scrubber		Cold-side ESP	
Kentucky	CLARK	DALE	1385_B_1	1385_B	1	Coal Steam	20	none			Hot-side ESP	
Kentucky	CLARK	DALE	1385_B_2	1385_B	2	Coal Steam	20	none			Hot-side ESP	
Kentucky	CLARK	DALE	1385_B_3	1385_B	3	Coal Steam	66	none			Cold-side ESP	
Kentucky	CLARK	DALE	1385_B_4	1385_B	4	Coal Steam	75	none			Cold-side ESP	
Kentucky	MERCER	E W BROWN	1355_B_1	1355_B	1	Coal Steam	105	none			Cold-side ESP	
Kentucky	MERCER	E W BROWN	1355_B_2	1355_B	2	Coal Steam	168	none			Cold-side ESP	
Kentucky	MERCER	E W BROWN	1355_B_3	1355_B	3	Coal Steam	384	none			Cold-side ESP	
Kentucky	BOONE	EAST BEND	6018_B_2	6018_B	2	Coal Steam	600	SCR	Wet Scrubber		Hot-side ESP	
Kentucky	DAVIESS	ELMER SMITH	1374_B_1	1374_B	1	Coal Steam	141.0639954	SCR	Wet Scrubber		Cold-side ESP	
Kentucky	DAVIESS	ELMER SMITH	1374_B_2	1374_B	2	Coal Steam	249.2590027	none	Wet Scrubber	Wet Limestone	Cold-side ESP	
Kentucky	CARROLL	GHENT	1356_B_1	1356_B	1	Coal Steam	476	none	Wet Scrubber	Wet FGD	Cold-side ESP	
Kentucky	CARROLL	GHENT	1356_B_2	1356_B	2	Coal Steam	509	none			Hot-side ESP	
Kentucky	CARROLL	GHENT	1356_B_3	1356_B	3	Coal Steam	498	none			Hot-side ESP	
Kentucky	CARROLL	GHENT	1356_B_4	1356_B	4	Coal Steam	485	none			Hot-side ESP	
Kentucky	MUHLENBERG	GREEN RIVER	1357_B_1	1357_B	1	Coal Steam	17.66666667	none	Wet Scrubber	Wet Lime FGD	Wet Scrubber	
Kentucky	MUHLENBERG	GREEN RIVER	1357_B_2	1357_B	2	Coal Steam	17.66666667	none	Wet Scrubber	Wet Lime FGD	Wet Scrubber	
Kentucky	MUHLENBERG	GREEN RIVER	1357_B_3	1357_B	3	Coal Steam	17.66666667	none	Wet Scrubber	Wet Lime FGD	Wet Scrubber	
Kentucky	MUHLENBERG	GREEN RIVER	1357_B_4	1357_B	4	Coal Steam	71	none			Cold-side ESP	
Kentucky	MUHLENBERG	GREEN RIVER	1357_B_5	1357_B	5	Coal Steam	108	none			Hot-side ESP	
Kentucky	MASON	H L SPURLOCK	6041_B_1	6041_B	1	Coal Steam	300	SCR			Hot-side ESP	
Kentucky	MASON	H L SPURLOCK	6041_B_2	6041_B	2	Coal Steam	500	SCR			Hot-side ESP	
Kentucky	HENDERSON	HENDERSON I	1372_B_6	1372_B	6	Coal Steam	26	none			Cold-side ESP	
Kentucky	HENDERSON	HMP&L STATION 2	1382_B_H1	1382_B	H1	Coal Steam	151.470186	none	Wet Scrubber	Wet Lime FGD	Cold-side ESP	
Kentucky	HENDERSON	HMP&L STATION 2	1382_B_H2	1382_B	H2	Coal Steam	157.4101933	none	Wet Scrubber	Wet Lime FGD	Cold-side ESP	
Kentucky	JEFFERSON	MILL CREEK	1364_B_1	1364_B	1	Coal Steam	303	none	Wet Scrubber	Wet Limestone	Cold-side ESP	
Kentucky	JEFFERSON	MILL CREEK	1364_B_2	1364_B	2	Coal Steam	301	none	Wet Scrubber	Wet Limestone	Cold-side ESP	
Kentucky	JEFFERSON	MILL CREEK	1364_B_3	1364_B	3	Coal Steam	386	SCR	Wet Scrubber		Cold-side ESP	
Kentucky	JEFFERSON	MILL CREEK	1364_B_4	1364_B	4	Coal Steam	480	SCR	Wet Scrubber		Cold-side ESP	
Kentucky	MUHLENBERG	PARADISE	1378_B_1	1378_B	1	Coal Steam	596	SCR	Wet Scrubber	Wet Limestone	Cold-side ESP	
Kentucky	MUHLENBERG	PARADISE	1378_B_2	1378_B	2	Coal Steam	596	SCR	Wet Scrubber	Wet Limestone	Cold-side ESP	
Kentucky	MUHLENBERG	PARADISE	1378_B_3	1378_B	3	Coal Steam	977	SCR	Wet Scrubber		Cold-side ESP	
Kentucky	BELL	PINEVILLE	1360_B_3	1360_B	3	Coal Steam	32	none			Cold-side ESP	
Kentucky	WEBSTER	R D GREEN	6639_B_G1	6639_B	G1	Coal Steam	228.9039272	none	Wet Scrubber	Wet Lime FGD	Cold-side ESP	
Kentucky	WEBSTER	R D GREEN	6639_B_G2	6639_B	G2	Coal Steam	220.9765185	none	Wet Scrubber	Wet Lime FGD	Cold-side ESP	
Kentucky	WEBSTER	ROBERT REID	1383_B_R1	1383_B	R1	Coal Steam	64.32615096	none			Hot-side ESP	
Kentucky	MCCRACKEN	SHAWNEE	1379_B_1	1379_B	1	Coal Steam	134	none			Fabric Filter	
Kentucky	MCCRACKEN	SHAWNEE	1379_B_10	1379_B	10	Coal Steam	124	none	Wet Scrubber	Other	Fabric Filter	
Kentucky	MCCRACKEN	SHAWNEE	1379_B_2	1379_B	2	Coal Steam	134	none			Fabric Filter	

State Name	County	Plant Name	Unique Id	ORIS Code	BGCI	Unit ID	PeachanPlantType	Capacity MW	Post-CombControl	Wet/DryScrubber	SCRB_Type	PMatter_Type
Kentucky	MCCRACKEN	SHAWNEE	1379_B_3	1379_B	3	Coal Steam	134	none			Fabric Filter	
Kentucky	MCCRACKEN	SHAWNEE	1379_B_4	1379_B	4	Coal Steam	134	none			Fabric Filter	
Kentucky	MCCRACKEN	SHAWNEE	1379_B_5	1379_B	5	Coal Steam	134	none			Fabric Filter	
Kentucky	MCCRACKEN	SHAWNEE	1379_B_6	1379_B	6	Coal Steam	134	none			Fabric Filter	
Kentucky	MCCRACKEN	SHAWNEE	1379_B_7	1379_B	7	Coal Steam	134	none			Fabric Filter	
Kentucky	MCCRACKEN	SHAWNEE	1379_B_8	1379_B	8	Coal Steam	134	none			Fabric Filter	
Kentucky	MCCRACKEN	SHAWNEE	1379_B_9	1379_B	9	Coal Steam	134	none			Fabric Filter	
Kentucky	TRIMBLE	TRIMBLE COUNTY	6071_B_1	6071_B	1	Coal Steam	434.75	SCR	Wet Scrubber		Cold-side ESP	
Kentucky	WOODFORD	TYRONE	1361_B_5	1361_B	5	Coal Steam	72	none			Cold-side ESP	
Louisiana	POINTE COUPEE	BIG CAJUN 2	6055_B_2B1	6055_B	2B1	Coal Steam	580	none			Cold-side ESP	
Louisiana	POINTE COUPEE	BIG CAJUN 2	6055_B_2B2	6055_B	2B2	Coal Steam	575	none			Cold-side ESP	
Louisiana	POINTE COUPEE	BIG CAJUN 2	6055_B_2B3	6055_B	2B3	Coal Steam	575	none			Cold-side ESP	
Louisiana	DE SOTO	DOLET HILLS	51_B_1	51_B	1	Coal Steam	650	none	Wet Scrubber	Wet FGD	Cold-side ESP	
Louisiana	Calcasieu	Nelson Coal	7363_G_6	7363_G	6	Coal Steam	550	none			Hot-side ESP	
Louisiana	RAPIDES	RODEMACHER	6190_B_2	6190_B	2	Coal Steam	523	none			Hot-side ESP	
Maryland	ANNE ARUNDEL	BRANDON SHORES	602_B_1	602_B	1	Coal Steam	645	SCR			Hot-side ESP	
Maryland	ANNE ARUNDEL	BRANDON SHORES	602_B_2	602_B	2	Coal Steam	646	SCR			Hot-side ESP	
Maryland	BALTIMORE	C P CRANE	1552_B_1	1552_B	1	Coal Steam	190	Fuel Reburning			Fabric Filter	
Maryland	BALTIMORE	C P CRANE	1552_B_2	1552_B	2	Coal Steam	190	Fuel Reburning			Fabric Filter	
Maryland	Prince Georges	CHALK POINT	1571_B_1	1571_B	1	Coal Steam	341	none			Cold-side ESP	
Maryland	Prince Georges	CHALK POINT	1571_B_2	1571_B	2	Coal Steam	342	none			Cold-side ESP	
Maryland	MONTGOMERY	DICKERSON	1572_B_1	1572_B	1	Coal Steam	182	none			Cold-side ESP + PM Scrubber	
Maryland	MONTGOMERY	DICKERSON	1572_B_2	1572_B	2	Coal Steam	182	none			Cold-side ESP + PM Scrubber	
Maryland	MONTGOMERY	DICKERSON	1572_B_3	1572_B	3	Coal Steam	182	none			Cold-side ESP + PM Scrubber	
Maryland	ANNE ARUNDEL	HERBERT A WAGNER	1554_B_2	1554_B	2	Coal Steam	135	none			Cold-side ESP	
Maryland	ANNE ARUNDEL	HERBERT A WAGNER	1554_B_3	1554_B	3	Coal Steam	324	SCR			Cold-side ESP	
Maryland	CHARLES	MORGANTOWN	1573_B_1	1573_B	1	Coal Steam	582	none			Cold-side ESP	
Maryland	CHARLES	MORGANTOWN	1573_B_2	1573_B	2	Coal Steam	582	none			Cold-side ESP	
Maryland	WASHINGTON	R P SMITH	1570_B_11	1570_B	11	Coal Steam	86	none			Cold-side ESP	
Maryland	WASHINGTON	R P SMITH	1570_B_9	1570_B	9	Coal Steam	28	none			Cold-side ESP	
Massachusetts	BRISTOL	BRAYTON POINT	1619_B_1	1619_B	1	Coal Steam	235.3741732	none			Cold-side ESP	
Massachusetts	BRISTOL	BRAYTON POINT	1619_B_2	1619_B	2	Coal Steam	228.7036501	none			Cold-side ESP	
Massachusetts	BRISTOL	BRAYTON POINT	1619_B_3	1619_B	3	Coal Steam	583.1943077	none			Cold-side ESP	
Massachusetts	HAMDEN	MOUNT TOM	1606_B_1	1606_B	1	Coal Steam	146	none			Cold-side ESP	
Massachusetts	ESSEX	SALEM HARBOR	1626_B_1	1626_B	1	Coal Steam	77.5864136	SNCR	Wet Scrubber		Cold-side ESP	
Massachusetts	ESSEX	SALEM HARBOR	1626_B_2	1626_B	2	Coal Steam	75.69406204	SNCR			Cold-side ESP	
Massachusetts	ESSEX	SALEM HARBOR	1626_B_3	1626_B	3	Coal Steam	141.9263663	SNCR			Cold-side ESP	
Massachusetts	BRISTOL	SOMERSET	1613_B_7	1613_B	7	Coal Steam	69	none			Cold-side ESP	
Massachusetts	BRISTOL	SOMERSET	1613_B_8	1613_B	8	Coal Steam	111	SNCR			Cold-side ESP	
Michigan	MUSKEGON	B C COBB	1695_B_4	1695_B	4	Coal Steam	161	none			Cold-side ESP	
Michigan	MUSKEGON	B C COBB	1695_B_5	1695_B	5	Coal Steam	159	none			Cold-side ESP	
Michigan	ST. CLAIR	BELLE RIVER	6034_B_1	6034_B	1	Coal Steam	625.3049927	none			Cold-side ESP	
Michigan	ST. CLAIR	BELLE RIVER	6034_B_2	6034_B	2	Coal Steam	635.0709839	none			Cold-side ESP	
Michigan	WAYNE	CONNERS CREEK	1726_B_15	1726_B	15	Coal Steam	118	none			Cold-side ESP	
Michigan	WAYNE	CONNERS CREEK	1726_B_16	1726_B	16	Coal Steam	118	none			Cold-side ESP	
Michigan	BAY	DAN E KARN	1702_B_1	1702_B	1	Coal Steam	255	none			Cold-side ESP	
Michigan	BAY	DAN E KARN	1702_B_2	1702_B	2	Coal Steam	260	none			Cold-side ESP	
Michigan	INGHAM	ECKERT STATION	1831_B_1	1831_B	1	Coal Steam	44.938	none			Cold-side ESP	
Michigan	INGHAM	ECKERT STATION	1831_B_2	1831_B	2	Coal Steam	42.47000122	none			Cold-side ESP	
Michigan	INGHAM	ECKERT STATION	1831_B_3	1831_B	3	Coal Steam	45.45899963	none			Cold-side ESP	
Michigan	INGHAM	ECKERT STATION	1831_B_4	1831_B	4	Coal Steam	76.35399628	none			Cold-side ESP	
Michigan	INGHAM	ECKERT STATION	1831_B_5	1831_B	5	Coal Steam	76.88999939	none			Cold-side ESP	
Michigan	INGHAM	ECKERT STATION	1831_B_6	1831_B	6	Coal Steam	76.48000336	none			Cold-side ESP	
Michigan	HILSDALE	ENDICOTT	4259_B_1	4259_B	1	Coal Steam	50	none	Wet Scrubber	Wet Lime FGD	Hot-side ESP	
Michigan	EATON	ERICKSON	1832_B_1	1832_B	1	Coal Steam	155.75	none			Cold-side ESP	
Michigan	HURON	HARBOR BEACH	1731_B_1	1731_B	1	Coal Steam	103	none			Cold-side ESP	
Michigan	OTTAWA	J B SIMS	1825_B_3	1825_B	3	Coal Steam	65.31400299	none	Wet Scrubber	Wet Lime FGD	Cold-side ESP	
Michigan	BAY	J C WEADOCK	1720_B_7	1720_B	7	Coal Steam	155	none			Cold-side ESP	
Michigan	BAY	J C WEADOCK	1720_B_8	1720_B	8	Coal Steam	155	none			Cold-side ESP	
Michigan	OTTAWA	J H CAMPBELL	1710_B_1	1710_B	1	Coal Steam	254	none			Cold-side ESP	
Michigan	OTTAWA	J H CAMPBELL	1710_B_2	1710_B	2	Coal Steam	355	none			Cold-side ESP	
Michigan	OTTAWA	J H CAMPBELL	1710_B_3	1710_B	3	Coal Steam	790.1489868	none			Cold-side ESP	
Michigan	MONROE	J R WHITING	1723_B_1	1723_B	1	Coal Steam	95	none			Cold-side ESP	
Michigan	MONROE	J R WHITING	1723_B_2	1723_B	2	Coal Steam	95	none			Cold-side ESP	
Michigan	MONROE	J R WHITING	1723_B_3	1723_B	3	Coal Steam	120	none			Cold-side ESP	
Michigan	OTTAWA	JAMES DE YOUNG	1830_B_5	1830_B	5	Coal Steam	27	none			Hot-side ESP	
Michigan	ST. CLAIR	MARYSVILLE	1732_B_10	1732_B	10	Coal Steam	50	none			Cold-side ESP	
Michigan	ST. CLAIR	MARYSVILLE	1732_B_11	1732_B	11	Coal Steam	50	none			Cold-side ESP	
Michigan	ST. CLAIR	MARYSVILLE	1732_B_12	1732_B	12	Coal Steam	50	none			Cold-side ESP	
Michigan	ST. CLAIR	MARYSVILLE	1732_B_9	1732_B	9	Coal Steam	50	none			Cold-side ESP	
Michigan	MONROE	MONROE	1733_B_1	1733_B	1	Coal Steam	750	SCR			Cold-side ESP	
Michigan	MONROE	MONROE	1733_B_2	1733_B	2	Coal Steam	750	SCR			Cold-side ESP	
Michigan	MONROE	MONROE	1733_B_3	1733_B	3	Coal Steam	750	SCR			Cold-side ESP	
Michigan	MONROE	MONROE	1733_B_4	1733_B	4	Coal Steam	750	SCR			Cold-side ESP	
Michigan	MARQUETTE	PRESQUE ISLE	1769_B_1	1769_B	1	Coal Steam	25	none			Cyclone	
Michigan	MARQUETTE	PRESQUE ISLE	1769_B_2	1769_B	2	Coal Steam	37	none			Fabric Filter	
Michigan	MARQUETTE	PRESQUE ISLE	1769_B_3	1769_B	3	Coal Steam	58	none			Fabric Filter	
Michigan	MARQUETTE	PRESQUE ISLE	1769_B_4	1769_B	4	Coal Steam	58	none			Fabric Filter	

State Name	County	Plant Name	Unique Id	ORIS Code	BGCI	Unit ID	PeachanPlantType	Capacity MW	Post-CombControl	Wet/DryScrubber	SCRB_Type	PMatter_Type
Michigan	MARQUETTE	PRESQUE ISLE	1769_B_5	1769_B	5	Coal Steam	87	none			Cold-side ESP	
Michigan	MARQUETTE	PRESQUE ISLE	1769_B_6	1769_B	6	Coal Steam	90	none			Cold-side ESP	
Michigan	MARQUETTE	PRESQUE ISLE	1769_B_7	1769_B	7	Coal Steam	85	none			Hot-side ESP	
Michigan	MARQUETTE	PRESQUE ISLE	1769_B_8	1769_B	8	Coal Steam	85	none			Hot-side ESP	
Michigan	MARQUETTE	PRESQUE ISLE	1769_B_9	1769_B	9	Coal Steam	88	none			Hot-side ESP	
Michigan	WAYNE	RIVER ROUGE	1740_B_2	1740_B	2	Coal Steam	238	none			Cold-side ESP	
Michigan	WAYNE	RIVER ROUGE	1740_B_3	1740_B	3	Coal Steam	262	none			Cold-side ESP	
Michigan	MARQUETTE	SHIRAS	1843_B_3	1843_B	3	Coal Steam	43.70000076	none	Dry Scrubber	Dry Lime FGD	Fabric Filter	
Michigan	ST. CLAIR	ST CLAIR	1743_B_1	1743_B	1	Coal Steam	163	none			Cold-side ESP	
Michigan	ST. CLAIR	ST CLAIR	1743_B_2	1743_B	2	Coal Steam	162	none			Cold-side ESP	
Michigan	ST. CLAIR	ST CLAIR	1743_B_3	1743_B	3	Coal Steam	163	none			Cold-side ESP	
Michigan	ST. CLAIR	ST CLAIR	1743_B_4	1743_B	4	Coal Steam	162	none			Cold-side ESP	
Michigan	ST. CLAIR	ST CLAIR	1743_B_6	1743_B	6	Coal Steam	294	none			Cold-side ESP	
Michigan	ST. CLAIR	ST CLAIR	1743_B_7	1743_B	7	Coal Steam	435	none			Cold-side ESP	
Michigan	WAYNE	TRENTON CHANNEL	1745_B_16	1745_B	16	Coal Steam	26.25	none			Cold-side ESP	
Michigan	WAYNE	TRENTON CHANNEL	1745_B_17	1745_B	17	Coal Steam	26.25	none			Cold-side ESP	
Michigan	WAYNE	TRENTON CHANNEL	1745_B_18	1745_B	18	Coal Steam	26.25	none			Cold-side ESP	
Michigan	WAYNE	TRENTON CHANNEL	1745_B_19	1745_B	19	Coal Steam	26.25	none			Cold-side ESP	
Michigan	WAYNE	TRENTON CHANNEL	1745_B_9A	1745_B	9A	Coal Steam	515	none			Cold-side ESP	
Michigan	WAYNE	WYANDOTTE	1866_B_7	1866_B	7	Coal Steam	19.95833333	Fuel Reburning			Hot-side ESP	
Michigan	WAYNE	WYANDOTTE	1866_B_8	1866_B	8	Coal Steam	19.95833333	Fuel Reburning	Dry Scrubber	Fluidized Bed Limestone Injection	Fabric Filter	
Minnesota	WASHINGTON	ALLEN S KING	1915_B_1	1915_B	1	Coal Steam	567	none			Cold-side ESP	
Minnesota	DAKOTA	BLACK DOG	1904_B_2	1904_B	2	Coal Steam	93	none	Wet Scrubber	Fluidized Bed	Cold-side ESP	
Minnesota	DAKOTA	BLACK DOG	1904_B_3	1904_B	3	Coal Steam	109	none			Cold-side ESP	
Minnesota	DAKOTA	BLACK DOG	1904_B_4	1904_B	4	Coal Steam	176	none			Cold-side ESP	
Minnesota	ITASCA	CLAY BOSWELL	1893_B_1	1893_B	1	Coal Steam	69	none			Fabric Filter	
Minnesota	ITASCA	CLAY BOSWELL	1893_B_2	1893_B	2	Coal Steam	69	none			Fabric Filter	
Minnesota	ITASCA	CLAY BOSWELL	1893_B_3	1893_B	3	Coal Steam	350	none	Wet Scrubber	Wet Scrubber	Wet Scrubber	
Minnesota	ITASCA	CLAY BOSWELL	1893_B_4	1893_B	4	Coal Steam	535	none	Wet Scrubber	Wet Limestone	Hot-side ESP	
Minnesota	RAMSEY	HIGH BRIDGE	1912_B_5	1912_B	5	Coal Steam	93	none			Cold-side ESP	
Minnesota	RAMSEY	HIGH BRIDGE	1912_B_6	1912_B	6	Coal Steam	169	none			Cold-side ESP	
Minnesota	OTTER TAIL	HOOT LAKE	1943_B_1	1943_B	1	Coal Steam	7.95	none			Fabric Filter	
Minnesota	OTTER TAIL	HOOT LAKE	1943_B_2	1943_B	2	Coal Steam	64.375	none			Cold-side ESP	
Minnesota	OTTER TAIL	HOOT LAKE	1943_B_3	1943_B	3	Coal Steam	84.19999695	none			Cold-side ESP	
Minnesota	Cook	LTV Steel Mining Company Schroeder	10075_G_GEN1	10075_G	GEN1	Coal Steam	3.787967965	none			Hot-side ESP	
Minnesota	Cook	LTV Steel Mining Company Schroeder	10075_G_GEN2	10075_G	GEN2	Coal Steam	3.787967965	none			Hot-side ESP	
Minnesota	Cook	LTV Steel Mining Company Schroeder	10075_G_GEN3	10075_G	GEN3	Coal Steam	3.787967965	none			Hot-side ESP	
Minnesota	ST. LOUIS	M L HIBBARD	1897_B_3	1897_B	3	Coal Steam	36.85	none			Cold-side ESP	
Minnesota	ST. LOUIS	M L HIBBARD	1897_B_4	1897_B	4	Coal Steam	13.86	none			Cold-side ESP	
Minnesota	CHIPPEWA	MINNESOTA VALLEY	1918_B_4	1918_B	4	Coal Steam	47	none			Cold-side ESP	
Minnesota	MOWER	NORTHEAST STATION	1961_B_NEPP	1961_B	NEPP	Coal Steam	29.34000015	none			Cold-side ESP	
Minnesota	HENNEPIN	RIVERSIDE	1927_B_6	1927_B	6	Coal Steam	75	none			Fabric Filter	
Minnesota	HENNEPIN	RIVERSIDE	1927_B_7	1927_B	7	Coal Steam	75	none			Fabric Filter	
Minnesota	HENNEPIN	RIVERSIDE	1927_B_8	1927_B	8	Coal Steam	222	none			Cold-side ESP	
Minnesota	SHERBURNE	SHERBURNE COUNTY	6090_B_1	6090_B	1	Coal Steam	712	none	Wet Scrubber	Wet Limestone	Wet Scrubber	
Minnesota	SHERBURNE	SHERBURNE COUNTY	6090_B_2	6090_B	2	Coal Steam	712	none	Wet Scrubber	Wet Limestone	Wet Scrubber	
Minnesota	SHERBURNE	SHERBURNE COUNTY	6090_B_3	6090_B	3	Coal Steam	871	none	Dry Scrubber	Dry Lime FGD	Fabric Filter	
Minnesota	OLMSTED	SILVER LAKE	2008_B_4	2008_B	4	Coal Steam	60.25	none			Hot-side ESP	
Minnesota	ST. LOUIS	SYL LASKIN	1891_B_1	1891_B	1	Coal Steam	55	none	Wet Scrubber	Wet Scrubber	Wet Scrubber	
Minnesota	ST. LOUIS	SYL LASKIN	1891_B_2	1891_B	2	Coal Steam	55	none	Wet Scrubber	Wet Scrubber	Wet Scrubber	
Mississippi	HARRISON	JACK WATSON	2049_B_4	2049_B	4	Coal Steam	261.7999878	none			Cold-side ESP	
Mississippi	HARRISON	JACK WATSON	2049_B_5	2049_B	5	Coal Steam	512.0999756	none			Cold-side ESP	
Mississippi	LAMAR	R D MORROW	6061_B_1	6061_B	1	Coal Steam	200	none	Wet Scrubber	Wet Limestone	Hot-side ESP	
Mississippi	LAMAR	R D MORROW	6061_B_2	6061_B	2	Coal Steam	200	none	Wet Scrubber	Wet Limestone	Hot-side ESP	
Mississippi	JACKSON	VICTOR J DANIEL JR.	6073_B_1	6073_B	1	Coal Steam	535.9000244	none			Cold-side ESP	
Mississippi	JACKSON	VICTOR J DANIEL JR.	6073_B_2	6073_B	2	Coal Steam	545.4000244	none			Hot-side ESP	
Missouri	JASPER	ASBURY	2076_B_1	2076_B	1	Coal Steam	211	none			Cold-side ESP	
Missouri	JACKSON	BLUE VALLEY	2132_B_1	2132_B	1	Coal Steam	21	none			Cold-side ESP	
Missouri	JACKSON	BLUE VALLEY	2132_B_2	2132_B	2	Coal Steam	21	none			Cold-side ESP	
Missouri	JACKSON	BLUE VALLEY	2132_B_3	2132_B	3	Coal Steam	51	none			Cold-side ESP	
Missouri	OSAGE	CHAMOIS	2169_B_2	2169_B	2	Coal Steam	49	none			Cold-side ESP	
Missouri	BOONE	COLUMBIA	2123_B_6	2123_B	6	Coal Steam	14.45375347	none			Fabric Filter	
Missouri	BOONE	COLUMBIA	2123_B_7	2123_B	7	Coal Steam	57.02635574	none			Fabric Filter	
Missouri	JACKSON	HAWTHORN	2079_B_5	2079_B	5	Coal Steam	550 SCR	Dry Scrubber	Dry Lime FGD		Fabric Filter	
Missouri	PLATTE	IATAN	6065_B_1	6065_B	1	Coal Steam	670	none	Wet Scrubber	Other	Cold-side ESP	
Missouri	GREENE	JAMES RIVER	2161_B_1	2161_B	1	Coal Steam	21	none			Cold-side ESP	
Missouri	GREENE	JAMES RIVER	2161_B_2	2161_B	2	Coal Steam	21	none			Cold-side ESP	
Missouri	GREENE	JAMES RIVER	2161_B_3	2161_B	3	Coal Steam	41	none			Cold-side ESP	
Missouri	GREENE	JAMES RIVER	2161_B_4	2161_B	4	Coal Steam	55	none			Cold-side ESP	
Missouri	GREENE	JAMES RIVER	2161_B_5	2161_B	5	Coal Steam	97	none			Cold-side ESP	
Missouri	FRANKLIN	LABADIE	2103_B_1	2103_B	1	Coal Steam	574	none			Cold-side ESP	
Missouri	FRANKLIN	LABADIE	2103_B_2	2103_B	2	Coal Steam	574	none			Cold-side ESP	
Missouri	FRANKLIN	LABADIE	2103_B_3	2103_B	3	Coal Steam	576	none			Cold-side ESP	
Missouri	FRANKLIN	LABADIE	2103_B_4	2103_B	4	Coal Steam	576	none			Cold-side ESP	
Missouri	BUCHANAN	LAKE ROAD	2098_B_5	2098_B	5	Coal Steam	21.03937729	none			Cold-side ESP	
Missouri	BUCHANAN	LAKE ROAD	2098_B_6	2098_B	6	Coal Steam	97	none			Cold-side ESP	
Missouri	ST. LOUIS	MERAMEC	2104_B_1	2104_B	1	Coal Steam	132	none			Cold-side ESP	
Missouri	ST. LOUIS	MERAMEC	2104_B_2	2104_B	2	Coal Steam	132	none			Cold-side ESP	

State Name	County	Plant Name	Unique Id	ORIS Code	BGCI	Unit ID	PeachanPlantType	Capacity MW	Post-CombControl	Wet/DryScrubber	SCRB_Type	PMatter_Type
Missouri	ST. LOUIS	MERAMEC	2104_B_3	2104_B	3	Coal Steam	277	none			Cold-side ESP	
Missouri	ST. LOUIS	MERAMEC	2104_B_4	2104_B	4	Coal Steam	336	none			Cold-side ESP	
Missouri	HENRY	MONTROSE	2080_B_1	2080_B	1	Coal Steam	155	none	Wet Scrubber	Other	Cold-side ESP	
Missouri	HENRY	MONTROSE	2080_B_2	2080_B	2	Coal Steam	153	none	Wet Scrubber	Other	Cold-side ESP	
Missouri	HENRY	MONTROSE	2080_B_3	2080_B	3	Coal Steam	161	none			Cold-side ESP	
Missouri	NEW MADRID	NEW MADRID	2167_B_1	2167_B	1	Coal Steam	580	SCR			Cold-side ESP	
Missouri	NEW MADRID	NEW MADRID	2167_B_2	2167_B	2	Coal Steam	580	SCR			Cold-side ESP	
Missouri	JEFFERSON	RUSH ISLAND	6155_B_1	6155_B	1	Coal Steam	579	none			Cold-side ESP	
Missouri	JEFFERSON	RUSH ISLAND	6155_B_2	6155_B	2	Coal Steam	579	none			Cold-side ESP	
Missouri	JACKSON	SIBLEY	2094_B_1	2094_B	1	Coal Steam	53	none			Cold-side ESP	
Missouri	JACKSON	SIBLEY	2094_B_2	2094_B	2	Coal Steam	53	none			Cold-side ESP	
Missouri	JACKSON	SIBLEY	2094_B_3	2094_B	3	Coal Steam	390	none			Cold-side ESP	
Missouri	SCOTT	SIKESTON	6768_B_1	6768_B	1	Coal Steam	222	none			Cold-side ESP	
Missouri	ST. CHARLES	SIOUX	2107_B_1	2107_B	1	Coal Steam	476	none			Cold-side ESP	
Missouri	ST. CHARLES	SIOUX	2107_B_2	2107_B	2	Coal Steam	476	none			Cold-side ESP	
Missouri	GREENE	SOUTHWEST	6195_B_1	6195_B	1	Coal Steam	178	none	Wet Scrubber	Wet Limestone	Cold-side ESP	
Missouri	RANDOLPH	THOMAS HILL	2168_B_MB1	2168_B	MB1	Coal Steam	175	none			Cold-side ESP	
Missouri	RANDOLPH	THOMAS HILL	2168_B_MB2	2168_B	MB2	Coal Steam	275	none			Cold-side ESP	
Missouri	RANDOLPH	THOMAS HILL	2168_B_MB3	2168_B	MB3	Coal Steam	670	none	Wet Scrubber	Wet Limestone	Cold-side ESP	
Montana	ROSEBUD	COLSTRIP	6076_B_1	6076_B	1	Coal Steam	330	none	Wet Scrubber	Wet Lime FGD	Wet Scrubber	
Montana	ROSEBUD	COLSTRIP	6076_B_2	6076_B	2	Coal Steam	330	none	Wet Scrubber	Wet Lime FGD	Wet Scrubber	
Montana	ROSEBUD	COLSTRIP	6076_B_3	6076_B	3	Coal Steam	700	none	Wet Scrubber	Wet Lime FGD	Wet Scrubber	
Montana	ROSEBUD	COLSTRIP	6076_B_4	6076_B	4	Coal Steam	700	none	Wet Scrubber	Wet Lime FGD	Wet Scrubber	
Montana	YELLOWSTONE	J E CORETTE	2187_B_2	2187_B	2	Coal Steam	156	none			Cold-side ESP	
Montana	RICHLAND	LEWIS & CLARK	6089_B_B1	6089_B	B1	Coal Steam	43.79999924	none	Wet Scrubber	Wet Limestone	Wet Scrubber	
Nebraska	LINCOLN	GERALD GENTLEMAN	6077_B_1	6077_B	1	Coal Steam	665	none			Hot-side ESP + Fabric Filter	
Nebraska	LINCOLN	GERALD GENTLEMAN	6077_B_2	6077_B	2	Coal Steam	700	none			Hot-side ESP	
Nebraska	DODGE	LON WRIGHT	2240_B_6	2240_B	6	Coal Steam	15	none			Fabric Filter	
Nebraska	DODGE	LON WRIGHT	2240_B_7	2240_B	7	Coal Steam	20	none			Fabric Filter	
Nebraska	DODGE	LON WRIGHT	2240_B_8	2240_B	8	Coal Steam	85	none			Hot-side ESP	
Nebraska	OTOE	NEBRASKA CITY	6096_B_1	6096_B	1	Coal Steam	584.9000244	none			Cold-side ESP	
Nebraska	DOUGLAS	NORTH OMAHA	2291_B_1	2291_B	1	Coal Steam	75.59999847	none			Cold-side ESP	
Nebraska	DOUGLAS	NORTH OMAHA	2291_B_2	2291_B	2	Coal Steam	110.5	none			Cold-side ESP	
Nebraska	DOUGLAS	NORTH OMAHA	2291_B_3	2291_B	3	Coal Steam	110.5	none			Cold-side ESP	
Nebraska	DOUGLAS	NORTH OMAHA	2291_B_4	2291_B	4	Coal Steam	133.1999969	none			Cold-side ESP	
Nebraska	DOUGLAS	NORTH OMAHA	2291_B_5	2291_B	5	Coal Steam	214.6999969	none			Cold-side ESP	
Nebraska	HALL	PLATTE	59_B_1	59_B	1	Coal Steam	100	none			Hot-side ESP	
Nebraska	LANCASTER	SHELDON	2277_B_1	2277_B	1	Coal Steam	105	none			Fabric Filter	
Nebraska	LANCASTER	SHELDON	2277_B_2	2277_B	2	Coal Steam	120	none			Fabric Filter	
Nebraska	ADAMS	WHEELAN ENERGY CENTER	60_B_1	60_B	1	Coal Steam	72	none			Hot-side ESP	
Nevada	CLARK	MOHAVE	2341_B_1	2341_B	1	Coal Steam	790	none	Dry Scrubber	Spray Dryer Type	Cold-side ESP	
Nevada	CLARK	MOHAVE	2341_B_2	2341_B	2	Coal Steam	790	none	Dry Scrubber	Spray Dryer Type	Cold-side ESP	
Nevada	HUMBOLDT	NORTH VALMY	8224_B_1	8224_B	1	Coal Steam	258	none			Fabric Filter	
Nevada	HUMBOLDT	NORTH VALMY	8224_B_2	8224_B	2	Coal Steam	274	none	Dry Scrubber	Dry Lime FGD	Fabric Filter	
Nevada	CLARK	REID GARDNER	2324_B_1	2324_B	1	Coal Steam	110	none	Dry Scrubber	Sodium based	Wet Scrubber	
Nevada	CLARK	REID GARDNER	2324_B_2	2324_B	2	Coal Steam	110	none	Wet Scrubber	Sodium based	Wet Scrubber	
Nevada	CLARK	REID GARDNER	2324_B_3	2324_B	3	Coal Steam	110	none	Wet Scrubber	Sodium based	Wet Scrubber	
Nevada	CLARK	REID GARDNER	2324_B_4	2324_B	4	Coal Steam	275	none	Wet Scrubber	Sodium based	Fabric Filter	
New Hampshire	MERRIMACK	MERRIMACK	2364_B_1	2364_B	1	Coal Steam	112.5	SCR			Cold-side ESP	
New Hampshire	MERRIMACK	MERRIMACK	2364_B_2	2364_B	2	Coal Steam	320	SCR			Cold-side ESP	
New Hampshire	ROCKINGHAM	SCHILLER	2367_B_4	2367_B	4	Coal Steam	47.5	SNCR			Cold-side ESP	
New Hampshire	ROCKINGHAM	SCHILLER	2367_B_5	2367_B	5	Coal Steam	49.6	SNCR			Cold-side ESP	
New Hampshire	ROCKINGHAM	SCHILLER	2367_B_6	2367_B	6	Coal Steam	48	SNCR			Cold-side ESP	
New Jersey	CAPE MAY	B L ENGLAND	2378_B_1	2378_B	1	Coal Steam	129	SNCR			Cold-side ESP	
New Jersey	CAPE MAY	B L ENGLAND	2378_B_2	2378_B	2	Coal Steam	155	SNCR	Wet Scrubber	Wet Limestone	Cold-side ESP	
New Jersey	SALEM	DEEPWATER	2384_B_8	2384_B	8	Coal Steam	80	none			Fabric Filter	
New Jersey	HUDSON	HUDSON	2403_B_2	2403_B	2	Coal Steam	600	SCR	Dry Scrubber		Hot-side ESP	
New Jersey	GLOUCESTER	Logan Generating Plant	10043_G_GEN1	10043_G	GEN1	Coal Steam	200.4784604	SCR			Fabric Filter	
New Jersey	MERCER	MERCER	2408_B_1	2408_B	1	Coal Steam	321	SCR	Dry Scrubber		Hot-side ESP	
New Jersey	MERCER	MERCER	2408_B_2	2408_B	2	Coal Steam	321	SCR	Dry Scrubber		Hot-side ESP	
New Mexico	MCKINLEY	ESCALANTE	87_B_1	87_B	1	Coal Steam	235	none	Wet Scrubber	Wet Limestone	Fabric Filter	
New Mexico	SAN JUAN	FOUR CORNERS	2442_B_1	2442_B	1	Coal Steam	170	none	Wet Scrubber	Wet Lime FGD	Wet Scrubber	
New Mexico	SAN JUAN	FOUR CORNERS	2442_B_2	2442_B	2	Coal Steam	170	none	Wet Scrubber	Wet Lime FGD	Wet Scrubber	
New Mexico	SAN JUAN	FOUR CORNERS	2442_B_3	2442_B	3	Coal Steam	220	none	Wet Scrubber	Wet Lime FGD	Wet Scrubber	
New Mexico	SAN JUAN	FOUR CORNERS	2442_B_4	2442_B	4	Coal Steam	740	none	Wet Scrubber	Wet Lime FGD	Fabric Filter	
New Mexico	SAN JUAN	FOUR CORNERS	2442_B_5	2442_B	5	Coal Steam	740	none	Wet Scrubber	Wet Lime FGD	Fabric Filter	
New Mexico	SAN JUAN	SAN JUAN	2451_B_1	2451_B	1	Coal Steam	316	none	Wet Scrubber	Wet Limestone	Hot-side ESP	
New Mexico	SAN JUAN	SAN JUAN	2451_B_2	2451_B	2	Coal Steam	312	none	Wet Scrubber	Wet Limestone	Hot-side ESP	
New Mexico	SAN JUAN	SAN JUAN	2451_B_3	2451_B	3	Coal Steam	488	none	Wet Scrubber	Wet Limestone	Hot-side ESP	
New Mexico	SAN JUAN	SAN JUAN	2451_B_4	2451_B	4	Coal Steam	498	none	Wet Scrubber	Wet Limestone	Hot-side ESP	
New York	ERIE	C R HUNTLEY	2549_B_63	2549_B	63	Coal Steam	85	none			Cold-side ESP	
New York	ERIE	C R HUNTLEY	2549_B_64	2549_B	64	Coal Steam	92	none			Cold-side ESP	
New York	ERIE	C R HUNTLEY	2549_B_65	2549_B	65	Coal Steam	92	none			Cold-side ESP	
New York	ERIE	C R HUNTLEY	2549_B_66	2549_B	66	Coal Steam	93	none			Cold-side ESP	
New York	ERIE	C R HUNTLEY	2549_B_67	2549_B	67	Coal Steam	191	none			Hot-side ESP	
New York	ERIE	C R HUNTLEY	2549_B_68	2549_B	68	Coal Steam	196	none			Hot-side ESP	
New York	ORANGE	DANSKAMMER	2480_B_3	2480_B	3	Coal Steam	131.2899933	none			Cold-side ESP	
New York	ORANGE	DANSKAMMER	2480_B_4	2480_B	4	Coal Steam	233	none			Cold-side ESP	

State Name	County	Plant Name	Unique Id	ORIS Code	BGCI	Unit ID	PeachanPlantType	Capacity MW	Post-CombControl	Wet/DryScrubber	SCRB_Type	PMatter_Type
New York	CHAUTAUQUA	DUNKIRK	2554_B_1	2554_B	1	Coal Steam	91	none				Hot-side ESP
New York	CHAUTAUQUA	DUNKIRK	2554_B_2	2554_B	2	Coal Steam	92	none				Hot-side ESP
New York	CHAUTAUQUA	DUNKIRK	2554_B_3	2554_B	3	Coal Steam	208	none				Hot-side ESP
New York	CHAUTAUQUA	DUNKIRK	2554_B_4	2554_B	4	Coal Steam	204	none				Hot-side ESP
New York	Jefferson	Fort Drum H T W Cogeneration Facility	10464_G_GEN1	10464_G	GEN1	Coal Steam	44.20102347	none	Dry Scrubber	Dry Lime FGD	Fabric Filter	
New York	BROOME	GOUDEY	2526_B_11	2526_B	11	Coal Steam	22	none				Hot-side ESP
New York	BROOME	GOUDEY	2526_B_12	2526_B	12	Coal Steam	22	none				Hot-side ESP
New York	BROOME	GOUDEY	2526_B_13	2526_B	13	Coal Steam	83	none				Hot-side ESP
New York	YATES	GREENIDGE	2527_B_4	2527_B	4	Coal Steam	27.5	none				Cold-side ESP
New York	YATES	GREENIDGE	2527_B_5	2527_B	5	Coal Steam	27.5	none				Cold-side ESP
New York	YATES	GREENIDGE	2527_B_6	2527_B	6	Coal Steam	105	Fuel Reburning				Cold-side ESP
New York	STEUBEN	HICKLING	2529_B_1	2529_B	1	Coal Steam	16.5	none				Hot-side ESP
New York	STEUBEN	HICKLING	2529_B_2	2529_B	2	Coal Steam	16.5	none				Hot-side ESP
New York	STEUBEN	HICKLING	2529_B_3	2529_B	3	Coal Steam	24.5	none				Hot-side ESP
New York	STEUBEN	HICKLING	2529_B_4	2529_B	4	Coal Steam	24.5	none				Hot-side ESP
New York	CHENANGO	JENNISON	2531_B_1	2531_B	1	Coal Steam	16.5	none				Cold-side ESP
New York	CHENANGO	JENNISON	2531_B_2	2531_B	2	Coal Steam	16.5	none				Cold-side ESP
New York	CHENANGO	JENNISON	2531_B_3	2531_B	3	Coal Steam	17	none				Cold-side ESP
New York	CHENANGO	JENNISON	2531_B_4	2531_B	4	Coal Steam	17	none				Cold-side ESP
New York	NIAGARA	KINTIGH	6082_B_1	6082_B	1	Coal Steam	675	SCR	Wet Scrubber	Wet Limestone		Cold-side ESP
New York	ROCKLAND	LOVETT	2629_B_4	2629_B	4	Coal Steam	176.8000031	none				Cold-side ESP
New York	ROCKLAND	LOVETT	2629_B_5	2629_B	5	Coal Steam	197	none				Cold-side ESP
New York	TOMPKINS	MILLIKEN	2535_B_1	2535_B	1	Coal Steam	157	SCR	Wet Scrubber	Wet Limestone		Cold-side ESP
New York	TOMPKINS	MILLIKEN	2535_B_2	2535_B	2	Coal Steam	149	none	Wet Scrubber	Wet Limestone		Cold-side ESP
New York	MONROE	ROCHESTER 7	2642_B_1	2642_B	1	Coal Steam	47	SNCR				Cold-side ESP
New York	MONROE	ROCHESTER 7	2642_B_2	2642_B	2	Coal Steam	65	SNCR				Cold-side ESP
New York	MONROE	ROCHESTER 7	2642_B_3	2642_B	3	Coal Steam	65	SNCR				Cold-side ESP
New York	MONROE	ROCHESTER 7	2642_B_4	2642_B	4	Coal Steam	80	SNCR				Cold-side ESP
New York	CHAUTAUQUA	S A CARLSON	2682_B_10	2682_B	10	Coal Steam	12.5	none				Cold-side ESP
New York	CHAUTAUQUA	S A CARLSON	2682_B_11	2682_B	11	Coal Steam	12.5	none				Cold-side ESP
New York	CHAUTAUQUA	S A CARLSON	2682_B_12	2682_B	12	Coal Steam	12.5	none				Cold-side ESP
New York	CHAUTAUQUA	S A CARLSON	2682_B_9	2682_B	9	Coal Steam	12.5	none				Cold-side ESP
New York	Niagara	UDG Niagara Falls Cogeneration Facility	50202_G_GEN1	50202_G	GEN1	Coal Steam	50.30316855	SNCR	Wet Scrubber	Wet Limestone		Fabric Filter
North Carolina	BUNCOMBE	ASHEVILLE	2706_B_1	2706_B	1	Coal Steam	198	SNCR				Cold-side ESP
North Carolina	BUNCOMBE	ASHEVILLE	2706_B_2	2706_B	2	Coal Steam	194	none				Cold-side ESP
North Carolina	STOKES	BELEWS CREEK	8042_B_1	8042_B	1	Coal Steam	1120	SCR				Cold-side ESP
North Carolina	STOKES	BELEWS CREEK	8042_B_2	8042_B	2	Coal Steam	1120	SCR				Cold-side ESP
North Carolina	ROWAN	BUCK	2720_B_5	2720_B	5	Coal Steam	37.5	none				Hot-side ESP
North Carolina	ROWAN	BUCK	2720_B_6	2720_B	6	Coal Steam	37.5	none				Hot-side ESP
North Carolina	ROWAN	BUCK	2720_B_7	2720_B	7	Coal Steam	38	none				Hot-side ESP
North Carolina	ROWAN	BUCK	2720_B_8	2720_B	8	Coal Steam	128	none				Hot-side ESP
North Carolina	ROWAN	BUCK	2720_B_9	2720_B	9	Coal Steam	128	none				Hot-side ESP
North Carolina	CHATHAM	CAPE FEAR	2708_B_5	2708_B	5	Coal Steam	143	SNCR				Cold-side ESP
North Carolina	CHATHAM	CAPE FEAR	2708_B_6	2708_B	6	Coal Steam	173	SNCR				Cold-side ESP
North Carolina	CLEVELAND	CLIFFSIDE	2721_B_1	2721_B	1	Coal Steam	38	none				Hot-side ESP
North Carolina	CLEVELAND	CLIFFSIDE	2721_B_2	2721_B	2	Coal Steam	38	none				Hot-side ESP
North Carolina	CLEVELAND	CLIFFSIDE	2721_B_3	2721_B	3	Coal Steam	61	Fuel Reburning				Hot-side ESP
North Carolina	CLEVELAND	CLIFFSIDE	2721_B_4	2721_B	4	Coal Steam	61	Fuel Reburning				Hot-side ESP
North Carolina	CLEVELAND	CLIFFSIDE	2721_B_5	2721_B	5	Coal Steam	562	SCR				Cold-side ESP
North Carolina	Bladen	Cogentrix Elizabethtown	10380_G_GEN1	10380_G	GEN1	Coal Steam	21.54940114	none				Fabric Filter
North Carolina	Duplin	Cogentrix Kenansville	10381_G_GEN1	10381_G	GEN1	Coal Steam	21.38439159	none				Fabric Filter
North Carolina	Robeson	Cogentrix Lumberton	10382_G_GEN1	10382_G	GEN1	Coal Steam	22.01795821	none				Fabric Filter
North Carolina	Person	Cogentrix Roxboro	10379_G_GEN1	10379_G	GEN1	Coal Steam	44.50651649	none				Fabric Filter
North Carolina	Brunswick	Cogentrix Southport	10378_G_GEN1	10378_G	GEN1	Coal Steam	45.49545093	none				Fabric Filter
North Carolina	Brunswick	Cogentrix Southport	10378_G_GEN2	10378_G	GEN2	Coal Steam	45.49545093	none				Fabric Filter
North Carolina	ROCKINGHAM	DAN RIVER	2723_B_1	2723_B	1	Coal Steam	67	none				Hot-side ESP
North Carolina	ROCKINGHAM	DAN RIVER	2723_B_2	2723_B	2	Coal Steam	67	none				Hot-side ESP
North Carolina	ROCKINGHAM	DAN RIVER	2723_B_3	2723_B	3	Coal Steam	142	none				Cold-side ESP
North Carolina	GASTON	G G ALLEN	2718_B_1	2718_B	1	Coal Steam	165	none				Cold-side ESP
North Carolina	GASTON	G G ALLEN	2718_B_2	2718_B	2	Coal Steam	165	none				Cold-side ESP
North Carolina	GASTON	G G ALLEN	2718_B_3	2718_B	3	Coal Steam	265	none				Hot-side ESP
North Carolina	GASTON	G G ALLEN	2718_B_4	2718_B	4	Coal Steam	275	none				Cold-side ESP
North Carolina	GASTON	G G ALLEN	2718_B_5	2718_B	5	Coal Steam	270	none				Hot-side ESP
North Carolina	NEW HANOVER	L V SUTTON	2713_B_1	2713_B	1	Coal Steam	97	none				Hot-side ESP
North Carolina	NEW HANOVER	L V SUTTON	2713_B_2	2713_B	2	Coal Steam	106	none				Hot-side ESP
North Carolina	NEW HANOVER	L V SUTTON	2713_B_3	2713_B	3	Coal Steam	410	none				Cold-side ESP
North Carolina	WAYNE	LEE	2709_B_1	2709_B	1	Coal Steam	79	none				Cold-side ESP
North Carolina	WAYNE	LEE	2709_B_2	2709_B	2	Coal Steam	76	Fuel Reburning				Hot-side ESP
North Carolina	WAYNE	LEE	2709_B_3	2709_B	3	Coal Steam	252	none				Cold-side ESP
North Carolina	CATAWBA	MARSHALL	2727_B_1	2727_B	1	Coal Steam	385	none				Cold-side ESP
North Carolina	CATAWBA	MARSHALL	2727_B_2	2727_B	2	Coal Steam	385	none				Cold-side ESP
North Carolina	CATAWBA	MARSHALL	2727_B_3	2727_B	3	Coal Steam	660	none				Cold-side ESP
North Carolina	CATAWBA	MARSHALL	2727_B_4	2727_B	4	Coal Steam	660	none				Cold-side ESP
North Carolina	PERSON	MAYO	6250_B_1A	6250_B	1A	Coal Steam	372.4999695	none				Hot-side ESP
North Carolina	PERSON	MAYO	6250_B_1B	6250_B	1B	Coal Steam	372.5	none				Hot-side ESP
North Carolina	GASTON	RIVERBEND	2732_B_10	2732_B	10	Coal Steam	133	none				Hot-side ESP
North Carolina	GASTON	RIVERBEND	2732_B_7	2732_B	7	Coal Steam	94	none				Hot-side ESP
North Carolina	GASTON	RIVERBEND	2732_B_8	2732_B	8	Coal Steam	94	none				Hot-side ESP

State Name	County	Plant Name	Unique Id	ORIS Code	BGCI	Unit ID	PeachanPlantType	Capacity MW	Post-CombControl	Wet/DryScrubber	SCRB_Type	PMatter_Type
North Carolina	GASTON	RIVERBEND	2732_B_9	2732 B	9	Coal Steam	133	none			Hot-side ESP	
North Carolina	PERSON	ROXBORO	2712_B_1	2712 B	1	Coal Steam	385	SCR			Cold-side ESP	
North Carolina	PERSON	ROXBORO	2712_B_2	2712 B	2	Coal Steam	670	none			Cold-side ESP	
North Carolina	PERSON	ROXBORO	2712_B_3A	2712 B	3A	Coal Steam	353.5	SCR			Cold-side ESP	
North Carolina	PERSON	ROXBORO	2712_B_3B	2712 B	3B	Coal Steam	353.5	none			Cold-side ESP	
North Carolina	PERSON	ROXBORO	2712_B_4A	2712 B	4A	Coal Steam	350	SCR			Hot-side ESP	
North Carolina	PERSON	ROXBORO	2712_B_4B	2712 B	4B	Coal Steam	350	SCR			Hot-side ESP	
North Carolina	ROBESON	W H WEATHERSPOON	2716_B_1	2716 B	1	Coal Steam	49	none			Cold-side ESP	
North Carolina	ROBESON	W H WEATHERSPOON	2716_B_2	2716 B	2	Coal Steam	49	none			Cold-side ESP	
North Carolina	ROBESON	W H WEATHERSPOON	2716_B_3	2716 B	3	Coal Steam	78	none			Cold-side ESP	
North Carolina	Halifax	Westmoreland LG&E Partners Roanoke Valley 1	54035_G_GEN1	54035 G	GEN1	Coal Steam	167.4661757	none	Dry Scrubber	Dry FGD	Fabric Filter	
North Carolina	Halifax	Westmoreland LG&E Partners Roanoke Valley II	54755_G_GEN2	54755 G	GEN2	Coal Steam	52.49133012	SNCR	Dry Scrubber	Dry FGD	Fabric Filter	
North Dakota	MERCER	ANTELOPE VALLEY	6469_B_B1	6469 B	B1	Coal Steam	450	none	Dry Scrubber	Dry Lime FGD	Fabric Filter	
North Dakota	MERCER	ANTELOPE VALLEY	6469_B_B2	6469 B	B2	Coal Steam	450	none	Dry Scrubber	Dry Lime FGD	Fabric Filter	
North Dakota	MCLEAN	COAL CREEK	6030_B_1	6030 B	1	Coal Steam	301.2999878	none	Wet Scrubber	Wet Lime FGD	Cold-side ESP	
North Dakota	MCLEAN	COAL CREEK	6030_B_2	6030 B	2	Coal Steam	303	none	Wet Scrubber	Wet Lime FGD	Cold-side ESP	
North Dakota	MERCER	COYOTE	8222_B_B1	8222 B	B1	Coal Steam	421	none	Dry Scrubber	Dry Lime FGD	Fabric Filter	
North Dakota	MERCER	LELAND OLDS	2817_B_1	2817 B	1	Coal Steam	210	none			Cold-side ESP	
North Dakota	MERCER	LELAND OLDS	2817_B_2	2817 B	2	Coal Steam	440	none			Cold-side ESP	
North Dakota	OLIVER	MILTON R YOUNG	2823_B_B1	2823 B	B1	Coal Steam	250	none			Cold-side ESP	
North Dakota	OLIVER	MILTON R YOUNG	2823_B_B2	2823 B	B2	Coal Steam	420	none	Wet Scrubber	Dual Alkali	Cold-side ESP	
North Dakota	MORTON	R M HESKETT	2790_B_B1	2790 B	B1	Coal Steam	28.4	none			Cold-side ESP	
North Dakota	MORTON	R M HESKETT	2790_B_B2	2790 B	B2	Coal Steam	74	none	Wet Scrubber	Fluidized Bed	Cold-side ESP	
North Dakota	MERCER	STANTON	2824_B_1	2824 B	1	Coal Steam	168.0379944	none			Cold-side ESP	
North Dakota	MERCER	STANTON	2824_B_10	2824 B	10	Coal Steam	69.46202087	none	Dry Scrubber	Dry Lime FGD	Fabric Filter	
Ohio	ASHTABULA	ASHTABULA	2835_B_7	2835 B	7	Coal Steam	243	none			Cold-side ESP	
Ohio	LORAIN	AVON LAKE	2836_B_10	2836 B	10	Coal Steam	95	none			Cold-side ESP	
Ohio	LORAIN	AVON LAKE	2836_B_12	2836 B	12	Coal Steam	596	none			Cold-side ESP	
Ohio	LUCAS	BAY SHORE	2878_B_1	2878 B	1	Coal Steam	132	none	Dry Scrubber	Dry Lime FGD	Fabric Filter	
Ohio	LUCAS	BAY SHORE	2878_B_2	2878 B	2	Coal Steam	134	none			Cold-side ESP	
Ohio	LUCAS	BAY SHORE	2878_B_3	2878 B	3	Coal Steam	142	none			Cold-side ESP	
Ohio	LUCAS	BAY SHORE	2878_B_4	2878 B	4	Coal Steam	213	none			Cold-side ESP	
Ohio	JEFFERSON	CARDINAL	2828_B_1	2828 B	1	Coal Steam	500.3657227	SCR			Cold-side ESP	
Ohio	JEFFERSON	CARDINAL	2828_B_2	2828 B	2	Coal Steam	585	SCR			Cold-side ESP	
Ohio	JEFFERSON	CARDINAL	2828_B_3	2828 B	3	Coal Steam	630	SCR			Hot-side ESP	
Ohio	COSHOCOTON	CONESVILLE	2840_B_1	2840 B	1	Coal Steam	115	none			Cold-side ESP	
Ohio	COSHOCOTON	CONESVILLE	2840_B_2	2840 B	2	Coal Steam	115	none			Cold-side ESP	
Ohio	COSHOCOTON	CONESVILLE	2840_B_3	2840 B	3	Coal Steam	165	none			Cold-side ESP	
Ohio	COSHOCOTON	CONESVILLE	2840_B_4	2840 B	4	Coal Steam	780	none			Cold-side ESP	
Ohio	COSHOCOTON	CONESVILLE	2840_B_5	2840 B	5	Coal Steam	375	none	Wet Scrubber	Wet Lime FGD	Cold-side ESP	
Ohio	COSHOCOTON	CONESVILLE	2840_B_6	2840 B	6	Coal Steam	375	none	Wet Scrubber	Wet Lime FGD	Cold-side ESP	
Ohio	LAKE	EASTLAKE	2837_B_1	2837 B	1	Coal Steam	129	none			Cold-side ESP	
Ohio	LAKE	EASTLAKE	2837_B_2	2837 B	2	Coal Steam	129	none			Cold-side ESP	
Ohio	LAKE	EASTLAKE	2837_B_3	2837 B	3	Coal Steam	129	SNCR			Cold-side ESP	
Ohio	LAKE	EASTLAKE	2837_B_4	2837 B	4	Coal Steam	238	none			Cold-side ESP	
Ohio	LAKE	EASTLAKE	2837_B_5	2837 B	5	Coal Steam	597	SNCR			Cold-side ESP	
Ohio	GALLIA	GEN J M GAVIN	8102_B_1	8102 B	1	Coal Steam	1300	SCR	Wet Scrubber		Cold-side ESP	
Ohio	GALLIA	GEN J M GAVIN	8102_B_2	8102 B	2	Coal Steam	1300	SCR	Wet Scrubber		Cold-side ESP	
Ohio	BUTLER	HAMILTON	2917_B_8	2917 B	8	Coal Steam	32.80276402	none			Hot-side ESP	
Ohio	BUTLER	HAMILTON	2917_B_9	2917 B	9	Coal Steam	49	none	Dry Scrubber	Dry Lime FGD	Fabric Filter	
Ohio	ADAMS	J M STUART	2850_B_1	2850 B	1	Coal Steam	585	none			Cold-side ESP	
Ohio	ADAMS	J M STUART	2850_B_2	2850 B	2	Coal Steam	585	none			Cold-side ESP	
Ohio	ADAMS	J M STUART	2850_B_3	2850 B	3	Coal Steam	585	none			Cold-side ESP	
Ohio	ADAMS	J M STUART	2850_B_4	2850 B	4	Coal Steam	585	none			Cold-side ESP	
Ohio	ADAMS	KILLEEN STATION	6031_B_2	6031 B	2	Coal Steam	600	none			Hot-side ESP	
Ohio	GALLIA	KYGER CREEK	2876_B_1	2876 B	1	Coal Steam	211	SCR			Cold-side ESP	
Ohio	GALLIA	KYGER CREEK	2876_B_2	2876 B	2	Coal Steam	198	SCR			Cold-side ESP	
Ohio	GALLIA	KYGER CREEK	2876_B_3	2876 B	3	Coal Steam	205	SCR			Cold-side ESP	
Ohio	GALLIA	KYGER CREEK	2876_B_4	2876 B	4	Coal Steam	199	SCR			Cold-side ESP	
Ohio	GALLIA	KYGER CREEK	2876_B_5	2876 B	5	Coal Steam	201	SCR			Cold-side ESP	
Ohio	CUYAHOGA	LAKE SHORE	2838_B_18	2838 B	18	Coal Steam	245	none			Cold-side ESP	
Ohio	HAMILTON	MIAMI FORT	2832_B_5_1	2832 B	5-1	Coal Steam	40	none			Cold-side ESP	
Ohio	HAMILTON	MIAMI FORT	2832_B_5_2	2832 B	5-2	Coal Steam	40	none			Cold-side ESP	
Ohio	HAMILTON	MIAMI FORT	2832_B_6	2832 B	6	Coal Steam	163	SNCR			Cold-side ESP	
Ohio	HAMILTON	MIAMI FORT	2832_B_7	2832 B	7	Coal Steam	500	SCR			Cold-side ESP	
Ohio	HAMILTON	MIAMI FORT	2832_B_8	2832 B	8	Coal Steam	500	SCR			Cold-side ESP	
Ohio	Morgan	MUSKINGUM RIVER	2872_B_1	2872 B	1	Coal Steam	190	none			Cold-side ESP	
Ohio	Morgan	MUSKINGUM RIVER	2872_B_2	2872 B	2	Coal Steam	190	none			Cold-side ESP	
Ohio	Morgan	MUSKINGUM RIVER	2872_B_3	2872 B	3	Coal Steam	205	none			Cold-side ESP	
Ohio	Morgan	MUSKINGUM RIVER	2872_B_4	2872 B	4	Coal Steam	205	none			Cold-side ESP	
Ohio	Morgan	MUSKINGUM RIVER	2872_B_5	2872 B	5	Coal Steam	575	none			Cold-side ESP	
Ohio	TRUMBULL	NILES	2861_B_1	2861 B	1	Coal Steam	69	none	Wet Scrubber	Wet Limestone	Cold-side ESP	
Ohio	TRUMBULL	NILES	2861_B_2	2861 B	2	Coal Steam	69	none	Wet Scrubber	Other	Cold-side ESP	
Ohio	MONTGOMERY	O H HUTCHINGS	2848_B_H-1	2848 B	H-1	Coal Steam	58	none			Hot-side ESP	
Ohio	MONTGOMERY	O H HUTCHINGS	2848_B_H-2	2848 B	H-2	Coal Steam	55	none			Hot-side ESP	
Ohio	MONTGOMERY	O H HUTCHINGS	2848_B_H-3	2848 B	H-3	Coal Steam	63	none			Hot-side ESP	
Ohio	MONTGOMERY	O H HUTCHINGS	2848_B_H-4	2848 B	H-4	Coal Steam	63	none			Hot-side ESP	
Ohio	MONTGOMERY	O H HUTCHINGS	2848_B_H-5	2848 B	H-5	Coal Steam	63	none			Hot-side ESP	

State Name	County	Plant Name	Unique Id	ORIS Code	BGCI	Unit ID	PeachanPlantType	Capacity MW	Post-CombControl	Wet/DryScrubber	SCRB_Type	PMatter_Type
Ohio	MONTGOMERY	O H HUTCHINGS	2848_B_H-6	2848_B	H-6		Coal Steam	63	none			Hot-side ESP
Ohio	PICKAWAY	PICWAY	2843_B_9	2843_B	9		Coal Steam	90	none			Cold-side ESP
Ohio	BELMONT	R E BURGER	2864_B_5	2864_B	5		Coal Steam	47	none			Cold-side ESP
Ohio	BELMONT	R E BURGER	2864_B_6	2864_B	6		Coal Steam	47	none			Cold-side ESP
Ohio	BELMONT	R E BURGER	2864_B_7	2864_B	7		Coal Steam	156	none			Cold-side ESP
Ohio	BELMONT	R E BURGER	2864_B_8	2864_B	8		Coal Steam	156	none			Cold-side ESP
Ohio	WASHINGTON	RICHARD GORSUCH	7286_B_1	7286_B	1		Coal Steam	53	none			Cold-side ESP
Ohio	WASHINGTON	RICHARD GORSUCH	7286_B_2	7286_B	2		Coal Steam	53	none			Cold-side ESP
Ohio	WASHINGTON	RICHARD GORSUCH	7286_B_3	7286_B	3		Coal Steam	53.15	none			Cold-side ESP
Ohio	WASHINGTON	RICHARD GORSUCH	7286_B_4	7286_B	4		Coal Steam	53.15	none			Cold-side ESP
Ohio	JEFFERSON	TORONTO	2867_B_10	2867_B	10		Coal Steam	64.5	none			Cold-side ESP
Ohio	JEFFERSON	TORONTO	2867_B_11	2867_B	11		Coal Steam	64.5	none			Cold-side ESP
Ohio	JEFFERSON	TORONTO	2867_B_9	2867_B	9		Coal Steam	43	none			Cold-side ESP
Ohio	JEFFERSON	W H SAMMIS	2866_B_1	2866_B	1		Coal Steam	180	none			Fabric Filter
Ohio	JEFFERSON	W H SAMMIS	2866_B_2	2866_B	2		Coal Steam	180	SNCR			Fabric Filter
Ohio	JEFFERSON	W H SAMMIS	2866_B_3	2866_B	3		Coal Steam	180	none			Fabric Filter
Ohio	JEFFERSON	W H SAMMIS	2866_B_4	2866_B	4		Coal Steam	180	none			Fabric Filter
Ohio	JEFFERSON	W H SAMMIS	2866_B_5	2866_B	5		Coal Steam	300	none			Cold-side ESP
Ohio	JEFFERSON	W H SAMMIS	2866_B_6	2866_B	6		Coal Steam	600	SNCR			Cold-side ESP
Ohio	JEFFERSON	W H SAMMIS	2866_B_7	2866_B	7		Coal Steam	600	SNCR			Cold-side ESP
Ohio	CLERMONT	W H ZIMMER	6019_B_1	6019_B	1		Coal Steam	1299.5	none	Wet Scrubber	Wet Lime FGD	Cold-side ESP
Ohio	CLERMONT	WALTER C BECKJORD	2830_B_1	2830_B	1		Coal Steam	94	none			Cold-side ESP
Ohio	CLERMONT	WALTER C BECKJORD	2830_B_2	2830_B	2		Coal Steam	94	none			Cold-side ESP
Ohio	CLERMONT	WALTER C BECKJORD	2830_B_3	2830_B	3		Coal Steam	128	none			Cold-side ESP
Ohio	CLERMONT	WALTER C BECKJORD	2830_B_4	2830_B	4		Coal Steam	150	none			Cold-side ESP
Ohio	CLERMONT	WALTER C BECKJORD	2830_B_5	2830_B	5		Coal Steam	238	none			Cold-side ESP
Ohio	CLERMONT	WALTER C BECKJORD	2830_B_6	2830_B	6		Coal Steam	414.25	none			Cold-side ESP
Oklahoma	MAYES	GRDA	165_B_1	165_B	1		Coal Steam	490	SNCR			Cold-side ESP
Oklahoma	MAYES	GRDA	165_B_2	165_B	2		Coal Steam	520	none	Dry Scrubber	Dry Lime FGD	Cold-side ESP
Oklahoma	CHOCTAW	HUGO	6772_B_1	6772_B	1		Coal Steam	408	none			Cold-side ESP
Oklahoma	MUSKOGEE	MUSKOGEE	2952_B_4	2952_B	4		Coal Steam	500	none			Cold-side ESP
Oklahoma	MUSKOGEE	MUSKOGEE	2952_B_5	2952_B	5		Coal Steam	500	none			Cold-side ESP
Oklahoma	MUSKOGEE	MUSKOGEE	2952_B_6	2952_B	6		Coal Steam	515	none			Cold-side ESP
Oklahoma	ROGERS	NORTHEASTERN	2963_B_3313	2963_B	3313		Coal Steam	450	none			Cold-side ESP
Oklahoma	ROGERS	NORTHEASTERN	2963_B_3314	2963_B	3314		Coal Steam	450	none			Cold-side ESP
Oklahoma	NOBLE	SOONER	6095_B_1	6095_B	1		Coal Steam	505	none			Cold-side ESP
Oklahoma	NOBLE	SOONER	6095_B_2	6095_B	2		Coal Steam	510	none			Cold-side ESP
Oregon	MORROW	BOARDMAN	6106_B_1SG	6106_B	1SG		Coal Steam	508	none			Cold-side ESP
Pennsylvania	ARMSTRONG	ARMSTRONG	3178_B_1	3178_B	1		Coal Steam	172	SNCR			Cold-side ESP
Pennsylvania	ARMSTRONG	ARMSTRONG	3178_B_2	3178_B	2		Coal Steam	171	SNCR			Cold-side ESP
Pennsylvania	BEAVER	BRUCE MANSFIELD	6094_B_1	6094_B	1		Coal Steam	781	none	Wet Scrubber	Wet Lime FGD	Wet Scrubber
Pennsylvania	BEAVER	BRUCE MANSFIELD	6094_B_2	6094_B	2		Coal Steam	785	none	Wet Scrubber	Wet Lime FGD	Wet Scrubber
Pennsylvania	BEAVER	BRUCE MANSFIELD	6094_B_3	6094_B	3		Coal Steam	805	none	Wet Scrubber	Wet Lime FGD	Cold-side ESP
Pennsylvania	YORK	BRUNNER ISLAND	3140_B_1	3140_B	1		Coal Steam	321	none			Fabric Filter
Pennsylvania	YORK	BRUNNER ISLAND	3140_B_2	3140_B	2		Coal Steam	378	none			Cold-side ESP
Pennsylvania	YORK	BRUNNER ISLAND	3140_B_3	3140_B	3		Coal Steam	735	none			Cold-side ESP
Pennsylvania	Cambridge	Cambridge CoGen	10641_G_GEN1	10641_G	GEN1		Coal Steam	86.86059104	SNCR	Wet Scrubber	Fluidized Bed	Fabric Filter
Pennsylvania	ALLEGHENY	CHESWICK	8226_B_1	8226_B	1		Coal Steam	562	none			Cold-side ESP
Pennsylvania	INDIANA	CONEMAUGH	3118_B_1	3118_B	1		Coal Steam	850	none	Wet Scrubber	Wet Limestone	Cold-side ESP
Pennsylvania	INDIANA	CONEMAUGH	3118_B_2	3118_B	2		Coal Steam	850	none	Wet Scrubber	Wet Limestone	Cold-side ESP
Pennsylvania	CHESTER	CROMBY	3159_B_1	3159_B	1		Coal Steam	144	SNCR	Wet Scrubber	Magnesium Oxide	Wet Scrubber
Pennsylvania	Cambridge	Ebensburg Power Company	10603_G_GEN1	10603_G	GEN1		Coal Steam	50.61546553	none	Dry Scrubber	Fluidized Bed -Limestone injection	Fabric Filter
Pennsylvania	DELAWARE	EDDYSTONE	3161_B_1	3161_B	1		Coal Steam	279	none	Wet Scrubber	Magnesium Oxide	Hot-side ESP
Pennsylvania	DELAWARE	EDDYSTONE	3161_B_2	3161_B	2		Coal Steam	302	none	Wet Scrubber	Magnesium Oxide	Hot-side ESP
Pennsylvania	WASHINGTON	ELRAMA	3098_B_1	3098_B	1		Coal Steam	97	Fuel Reburning	Wet Scrubber	Wet Lime FGD	Hot-side ESP
Pennsylvania	WASHINGTON	ELRAMA	3098_B_2	3098_B	2		Coal Steam	97	Fuel Reburning	Wet Scrubber	Wet Lime FGD	Hot-side ESP
Pennsylvania	WASHINGTON	ELRAMA	3098_B_3	3098_B	3		Coal Steam	109	Fuel Reburning	Wet Scrubber	Wet Lime FGD	Hot-side ESP
Pennsylvania	WASHINGTON	ELRAMA	3098_B_4	3098_B	4		Coal Steam	171	SNCR	Wet Scrubber	Wet Lime FGD	Hot-side ESP
Pennsylvania	ALLEGHENY	F R PHILLIPS	3099_B_3	3099_B	3		Coal Steam	58.66666667	none	Wet Scrubber	Venturi type	Cyclone
Pennsylvania	ALLEGHENY	F R PHILLIPS	3099_B_4	3099_B	4		Coal Steam	58.66666667	none	Wet Scrubber	Venturi type	Cyclone
Pennsylvania	ALLEGHENY	F R PHILLIPS	3099_B_5	3099_B	5		Coal Steam	58.66666667	none	Wet Scrubber	Venturi type	Cyclone
Pennsylvania	ALLEGHENY	F R PHILLIPS	3099_B_6	3099_B	6		Coal Steam	134	none	Wet Scrubber	Venturi type	Cyclone
Pennsylvania	GREENE	HATFIELD'S FERRY	3179_B_1	3179_B	1		Coal Steam	500	SNCR			Cold-side ESP
Pennsylvania	GREENE	HATFIELD'S FERRY	3179_B_2	3179_B	2		Coal Steam	500	none			Cold-side ESP
Pennsylvania	GREENE	HATFIELD'S FERRY	3179_B_3	3179_B	3		Coal Steam	500	none			Cold-side ESP
Pennsylvania	INDIANA	HOMER CITY	3122_B_1	3122_B	1		Coal Steam	620	SCR			Cold-side ESP
Pennsylvania	INDIANA	HOMER CITY	3122_B_2	3122_B	2		Coal Steam	614	SCR			Cold-side ESP
Pennsylvania	INDIANA	HOMER CITY	3122_B_3	3122_B	3		Coal Steam	650	SCR			Cold-side ESP
Pennsylvania	LUZERNE	HUNLOCK PWR STATION	3176_B_6	3176_B	6		Coal Steam	48	none			Cold-side ESP
Pennsylvania	ARMSTRONG	KEYSTONE	3136_B_1	3136_B	1		Coal Steam	850	none			Cold-side ESP
Pennsylvania	ARMSTRONG	KEYSTONE	3136_B_2	3136_B	2		Coal Steam	850	none			Cold-side ESP
Pennsylvania	Schuylkill	Kline Township Cogen Facil	50039_G_GEN1	50039_G	GEN1		Coal Steam	49.49192591	none	Dry Scrubber	Fluidized Bed -Limestone injection	Fabric Filter
Pennsylvania	NORTHAMPTON	MARTINS CREEK	3148_B_1	3148_B	1		Coal Steam	140	none			Cold-side ESP
Pennsylvania	NORTHAMPTON	MARTINS CREEK	3148_B_2	3148_B	2		Coal Steam	140	none			Cold-side ESP
Pennsylvania	WASHINGTON	MITCHELL	3181_B_33	3181_B	33		Coal Steam	275	none	Wet Scrubber	Wet Lime FGD	Cold-side ESP
Pennsylvania	MONTOUR	MONTOUR	3149_B_1	3149_B	1		Coal Steam	760	SCR			Cold-side ESP
Pennsylvania	MONTOUR	MONTOUR	3149_B_2	3149_B	2		Coal Steam	745	SCR			Cold-side ESP
Pennsylvania	LAWRENCE	NEW CASTLE	3138_B_3	3138_B	3		Coal Steam	98	none			Cold-side ESP

State Name	County	Plant Name	Unique Id	ORIS Code	BGCI	Unit ID	PeachanPlantType	Capacity MW	Post-CombControl	Wet/DryScrubber	SCRB_Type	PMatter_Type
Pennsylvania	LAWRENCE	NEW CASTLE	3138_B_4	3138_B	4	Coal Steam	98	none			Cold-side ESP	
Pennsylvania	LAWRENCE	NEW CASTLE	3138_B_5	3138_B	5	Coal Steam	137	none			Cold-side ESP	
Pennsylvania	Clarion	Piney Creek Project	54144_G_GEN1	54144_G	GEN1	Coal Steam	31.86048452	none	Dry Scrubber	Dry Sorbent Injection	Fabric Filter	
Pennsylvania	NORTHAMPTON	PORTLAND	3113_B_1	3113_B	1	Coal Steam	158	none			Cold-side ESP	
Pennsylvania	NORTHAMPTON	PORTLAND	3113_B_2	3113_B	2	Coal Steam	243	none			Cold-side ESP	
Pennsylvania	INDIANA	SEWARD	3130_B_12	3130_B	12	Coal Steam	30	none			Cold-side ESP	
Pennsylvania	INDIANA	SEWARD	3130_B_14	3130_B	14	Coal Steam	30	none			Cold-side ESP	
Pennsylvania	INDIANA	SEWARD	3130_B_15	3130_B	15	Coal Steam	136	SNCR			Cold-side ESP	
Pennsylvania	CLEARFIELD	SHAWVILLE	3131_B_1	3131_B	1	Coal Steam	122	none			Cold-side ESP	
Pennsylvania	CLEARFIELD	SHAWVILLE	3131_B_2	3131_B	2	Coal Steam	125	none	Wet Scrubber	Wet Limestone	Cold-side ESP	
Pennsylvania	CLEARFIELD	SHAWVILLE	3131_B_3	3131_B	3	Coal Steam	175	none			Cold-side ESP	
Pennsylvania	CLEARFIELD	SHAWVILLE	3131_B_4	3131_B	4	Coal Steam	175	none			Cold-side ESP	
Pennsylvania	SNYDER	SUNBURY	3152_B_1A	3152_B	1A	Coal Steam	37.74193548	none			Fabric Filter	
Pennsylvania	SNYDER	SUNBURY	3152_B_1B	3152_B	1B	Coal Steam	37.74193548	none			Fabric Filter	
Pennsylvania	SNYDER	SUNBURY	3152_B_2A	3152_B	2A	Coal Steam	37.74193548	none			Fabric Filter	
Pennsylvania	SNYDER	SUNBURY	3152_B_2B	3152_B	2B	Coal Steam	37.74193548	none			Fabric Filter	
Pennsylvania	SNYDER	SUNBURY	3152_B_3	3152_B	3	Coal Steam	83.03225806	none			Cold-side ESP	
Pennsylvania	SNYDER	SUNBURY	3152_B_4	3152_B	4	Coal Steam	128	none			Cold-side ESP	
Pennsylvania	BERKS	TITUS	3115_B_1	3115_B	1	Coal Steam	81	none			Cold-side ESP	
Pennsylvania	BERKS	TITUS	3115_B_2	3115_B	2	Coal Steam	79	none			Cold-side ESP	
Pennsylvania	BERKS	TITUS	3115_B_3	3115_B	3	Coal Steam	81	none			Cold-side ESP	
Pennsylvania	WARREN	WARREN	3132_B_1	3132_B	1	Coal Steam	20.5	none			Hot-side ESP	
Pennsylvania	WARREN	WARREN	3132_B_2	3132_B	2	Coal Steam	20.5	none			Hot-side ESP	
Pennsylvania	WARREN	WARREN	3132_B_3	3132_B	3	Coal Steam	20.5	none			Hot-side ESP	
Pennsylvania	WARREN	WARREN	3132_B_4	3132_B	4	Coal Steam	20.5	none			Hot-side ESP	
Pennsylvania	Schuylkill	Wheeler Frackville Energy Company Inc	50879_G_GEN1	50879_G	GEN1	Coal Steam	42.42554589	none	Dry Scrubber	Fluidized Bed Limestone Injection	Fabric Filter	
South Carolina	COLLETION	CANADYS STEAM	3280_B_CAN1	3280_B	CAN1	Coal Steam	125	none			Cold-side ESP	
South Carolina	COLLETION	CANADYS STEAM	3280_B_CAN2	3280_B	CAN2	Coal Steam	125	none			Cold-side ESP	
South Carolina	COLLETION	CANADYS STEAM	3280_B_CAN3	3280_B	CAN3	Coal Steam	180	none			Fabric Filter	
South Carolina	ORANGEBURG	COPE	7210_B_COP1	7210_B	COP1	Coal Steam	385	none	Dry Scrubber	Dry Lime FGD	Fabric Filter	
South Carolina	BERKELEY	CROSS	130_B_1	130_B	1	Coal Steam	560	SCR			Cold-side ESP	
South Carolina	BERKELEY	CROSS	130_B_2	130_B	2	Coal Steam	540	SCR			Cold-side ESP	
South Carolina	HORRY	DOLPHUS M GRAINGER	3317_B_1	3317_B	1	Coal Steam	85	none			Cold-side ESP	
South Carolina	HORRY	DOLPHUS M GRAINGER	3317_B_2	3317_B	2	Coal Steam	85	none			Cold-side ESP	
South Carolina	DARLINGTON	H B ROBINSON	3251_B_1	3251_B	1	Coal Steam	174	none			Cold-side ESP	
South Carolina	BERKELEY	JEFFERIES	3319_B_3	3319_B	3	Coal Steam	153	none			Cold-side ESP	
South Carolina	BERKELEY	JEFFERIES	3319_B_4	3319_B	4	Coal Steam	153	none			Cold-side ESP	
South Carolina	LEXINGTON	MCMEEKIN	3287_B_MCM1	3287_B	MCM1	Coal Steam	126	none			Fabric Filter	
South Carolina	LEXINGTON	MCMEEKIN	3287_B_MCM2	3287_B	MCM2	Coal Steam	126	none			Fabric Filter	
South Carolina	AIKEN	URQUHART	3295_B_URO1	3295_B	URO1	Coal Steam	75	none			Cold-side ESP	
South Carolina	AIKEN	URQUHART	3295_B_URO2	3295_B	URO2	Coal Steam	75	none			Cold-side ESP	
South Carolina	AIKEN	URQUHART	3295_B_URO3	3295_B	URO3	Coal Steam	100	none			Cold-side ESP	
South Carolina	ANDERSON	W S LEE	3264_B_1	3264_B	1	Coal Steam	100	Fuel Reburning			Hot-side ESP	
South Carolina	ANDERSON	W S LEE	3264_B_2	3264_B	2	Coal Steam	100	Fuel Reburning			Hot-side ESP	
South Carolina	ANDERSON	W S LEE	3264_B_3	3264_B	3	Coal Steam	170	none			Hot-side ESP	
South Carolina	RICHLAND	WATEREE	3297_B_WAT1	3297_B	WAT1	Coal Steam	350	SCR			Cold-side ESP + Fabric Filter	
South Carolina	RICHLAND	WATEREE	3297_B_WAT2	3297_B	WAT2	Coal Steam	350	SCR			Cold-side ESP	
South Carolina	BERKELEY	WILLIAMS	3298_B_WIL1	3298_B	WIL1	Coal Steam	560	SCR			Cold-side ESP	
South Carolina	GEORGETOWN	WINYAH	6249_B_1	6249_B	1	Coal Steam	270	SCR			Cold-side ESP	
South Carolina	GEORGETOWN	WINYAH	6249_B_2	6249_B	2	Coal Steam	270	SCR	Wet Scrubber		Cold-side ESP	
South Carolina	GEORGETOWN	WINYAH	6249_B_3	6249_B	3	Coal Steam	270	SCR	Wet Scrubber		Cold-side ESP	
South Carolina	GEORGETOWN	WINYAH	6249_B_4	6249_B	4	Coal Steam	270	none	Wet Scrubber	Spray type	Cold-side ESP	
South Dakota	PENNINGTON	BEN FRENCH	3325_B_1	3325_B	1	Coal Steam	21.6000038	none			Cold-side ESP	
South Dakota	GRANT	BIG STONE	6098_B_1	6098_B	1	Coal Steam	452.2720032	none			Cold-side ESP	
Tennessee	SHELBY	ALLEN	3393_B_1	3393_B	1	Coal Steam	248	SCR			Cold-side ESP	
Tennessee	SHELBY	ALLEN	3393_B_2	3393_B	2	Coal Steam	248	SCR			Cold-side ESP	
Tennessee	SHELBY	ALLEN	3393_B_3	3393_B	3	Coal Steam	248	SCR			Cold-side ESP	
Tennessee	ANDERSON	BULL RUN	3396_B_1	3396_B	1	Coal Steam	879	SCR			Cold-side ESP	
Tennessee	STEWART	CUMBERLAND	3399_B_1	3399_B	1	Coal Steam	1224	SCR	Wet Scrubber	Wet Limestone	Cold-side ESP	
Tennessee	STEWART	CUMBERLAND	3399_B_2	3399_B	2	Coal Steam	1224	SCR	Wet Scrubber	Wet Limestone	Cold-side ESP	
Tennessee	SUMNER	GALLATIN	3403_B_1	3403_B	1	Coal Steam	225	none			Cold-side ESP	
Tennessee	SUMNER	GALLATIN	3403_B_2	3403_B	2	Coal Steam	225	none			Cold-side ESP	
Tennessee	SUMNER	GALLATIN	3403_B_3	3403_B	3	Coal Steam	263	none			Cold-side ESP	
Tennessee	SUMNER	GALLATIN	3403_B_4	3403_B	4	Coal Steam	263	none			Cold-side ESP	
Tennessee	HAWKINS	JOHN SEVIER	3405_B_1	3405_B	1	Coal Steam	176	none			Hot-side ESP	
Tennessee	HAWKINS	JOHN SEVIER	3405_B_2	3405_B	2	Coal Steam	176	none			Hot-side ESP	
Tennessee	HAWKINS	JOHN SEVIER	3405_B_3	3405_B	3	Coal Steam	176	none			Hot-side ESP	
Tennessee	HAWKINS	JOHN SEVIER	3405_B_4	3405_B	4	Coal Steam	176	none			Hot-side ESP	
Tennessee	HUMPHREYS	JOHNSONVILLE	3406_B_1	3406_B	1	Coal Steam	107	none			Hot-side ESP	
Tennessee	HUMPHREYS	JOHNSONVILLE	3406_B_10	3406_B	10	Coal Steam	141	none			Cold-side ESP	
Tennessee	HUMPHREYS	JOHNSONVILLE	3406_B_2	3406_B	2	Coal Steam	107	none			Hot-side ESP	
Tennessee	HUMPHREYS	JOHNSONVILLE	3406_B_3	3406_B	3	Coal Steam	107	none			Hot-side ESP	
Tennessee	HUMPHREYS	JOHNSONVILLE	3406_B_4	3406_B	4	Coal Steam	107	none			Hot-side ESP	
Tennessee	HUMPHREYS	JOHNSONVILLE	3406_B_5	3406_B	5	Coal Steam	107	none			Hot-side ESP	
Tennessee	HUMPHREYS	JOHNSONVILLE	3406_B_6	3406_B	6	Coal Steam	107	none			Hot-side ESP	
Tennessee	HUMPHREYS	JOHNSONVILLE	3406_B_7	3406_B	7	Coal Steam	141	none			Cold-side ESP	
Tennessee	HUMPHREYS	JOHNSONVILLE	3406_B_8	3406_B	8	Coal Steam	141	none			Cold-side ESP	
Tennessee	HUMPHREYS	JOHNSONVILLE	3406_B_9	3406_B	9	Coal Steam	141	none			Cold-side ESP	

State Name	County	Plant Name	Unique Id	ORIS Code	BGCI	Unit ID	PeachanPlantType	Capacity MW	Post-CombControl	Wet/DryScrubber	SCRB_Type	PMatter_Type
Tennessee	ROANE	KINGSTON	3407_B_1	3407_B	1	Coal Steam	136	SCR			Hot-side ESP	
Tennessee	ROANE	KINGSTON	3407_B_2	3407_B	2	Coal Steam	136	SCR			Hot-side ESP	
Tennessee	ROANE	KINGSTON	3407_B_3	3407_B	3	Coal Steam	136	SCR			Hot-side ESP	
Tennessee	ROANE	KINGSTON	3407_B_4	3407_B	4	Coal Steam	136	SCR			Hot-side ESP	
Tennessee	ROANE	KINGSTON	3407_B_5	3407_B	5	Coal Steam	178	SCR			Hot-side ESP	
Tennessee	ROANE	KINGSTON	3407_B_6	3407_B	6	Coal Steam	178	SCR			Hot-side ESP	
Tennessee	ROANE	KINGSTON	3407_B_7	3407_B	7	Coal Steam	178	SCR			Hot-side ESP	
Tennessee	ROANE	KINGSTON	3407_B_8	3407_B	8	Coal Steam	178	SCR			Hot-side ESP	
Tennessee	ROANE	KINGSTON	3407_B_9	3407_B	9	Coal Steam	178	SCR			Hot-side ESP	
Texas	FREESTONE	BIG BROWN	3497_B_1	3497_B	1	Coal Steam	575	none			Cold-side ESP	
Texas	FREESTONE	BIG BROWN	3497_B_2	3497_B	2	Coal Steam	575	none			Cold-side ESP + Fabric Filter	
Texas	GOLIAD	COLETO CREEK	6178_B_1	6178_B	1	Coal Steam	632	none			Hot-side ESP	
Texas	GRIMES	GIBBONS CREEK	6136_B_1	6136_B	1	Coal Steam	405	none	Wet Scrubber	Wet Limestone	Cold-side ESP	
Texas	POTTER	HARRINGTON STATION	6193_B_061B	6193_B	061B	Coal Steam	346	none			Cold-side ESP	
Texas	POTTER	HARRINGTON STATION	6193_B_062B	6193_B	062B	Coal Steam	360	none			Fabric Filter	
Texas	POTTER	HARRINGTON STATION	6193_B_063B	6193_B	063B	Coal Steam	360	none			Fabric Filter	
Texas	BEXAR	J K SPRUCE	7097_B_BLR1	7097_B	BLR1	Coal Steam	530	none	Wet Scrubber	Wet Limestone	Fabric Filter	
Texas	BEXAR	J T DEELY	6181_B_1	6181_B	1	Coal Steam	405	none			Cold-side ESP	
Texas	BEXAR	J T DEELY	6181_B_2	6181_B	2	Coal Steam	405	none			Cold-side ESP	
Texas	LIMESTONE	LIMESTONE	298_B_LIM1	298_B	LIM1	Coal Steam	720	none	Wet Scrubber	Wet Limestone	Cold-side ESP	
Texas	LIMESTONE	LIMESTONE	298_B_LIM2	298_B	LIM2	Coal Steam	720	none	Wet Scrubber	Wet Limestone	Cold-side ESP	
Texas	RUSK	MARTIN LAKE	6146_B_1	6146_B	1	Coal Steam	750	none	Wet Scrubber	Wet Limestone	Cold-side ESP	
Texas	RUSK	MARTIN LAKE	6146_B_2	6146_B	2	Coal Steam	750	none	Wet Scrubber	Wet Limestone	Cold-side ESP	
Texas	RUSK	MARTIN LAKE	6146_B_3	6146_B	3	Coal Steam	750	none	Wet Scrubber	Wet Limestone	Cold-side ESP	
Texas	TITUS	MONTICELLO	6147_B_1	6147_B	1	Coal Steam	565	none			Cold-side ESP + Fabric Filter	
Texas	TITUS	MONTICELLO	6147_B_2	6147_B	2	Coal Steam	565	none			Cold-side ESP + Fabric Filter	
Texas	TITUS	MONTICELLO	6147_B_3	6147_B	3	Coal Steam	750	none	Wet Scrubber	Wet Limestone	Cold-side ESP	
Texas	WILBARGER	OKLAUNION	127_B_1	127_B	1	Coal Steam	676	none	Wet Scrubber	Wet Limestone	Cold-side ESP	
Texas	HARRISON	PIRKEY	7902_B_1	7902_B	1	Coal Steam	650	none	Wet Scrubber	Wet Limestone	Cold-side ESP	
Texas	FAYETTE	SAM SEYMOUR	6179_B_1	6179_B	1	Coal Steam	580	none			Cold-side ESP	
Texas	FAYETTE	SAM SEYMOUR	6179_B_2	6179_B	2	Coal Steam	580	none			Cold-side ESP	
Texas	FAYETTE	SAM SEYMOUR	6179_B_3	6179_B	3	Coal Steam	435	none	Wet Scrubber	Wet Lime FGD	Cold-side ESP	
Texas	ATASCOSA	SAN MIGUEL	6183_B_SM-1	6183_B	SM-1	Coal Steam	391	none	Wet Scrubber	Wet Limestone	Cold-side ESP	
Texas	MILAM	SANDOW	6648_B_4	6648_B	4	Coal Steam	545	none	Wet Scrubber	Wet Limestone	Cold-side ESP	
Texas	ROBERTSON	TNP ONE	7030_B_U1	7030_B	U1	Coal Steam	150	none	Wet Scrubber	Fluidized Bed	Fabric Filter	
Texas	ROBERTSON	TNP ONE	7030_B_U2	7030_B	U2	Coal Steam	150	none	Wet Scrubber	Fluidized Bed	Fabric Filter	
Texas	LAMB	TOLK STATION	6194_B_171B	6194_B	171B	Coal Steam	540	none			Fabric Filter	
Texas	LAMB	TOLK STATION	6194_B_172B	6194_B	172B	Coal Steam	540	none			Fabric Filter	
Texas	FORT BEND	W A PARISH	3470_B_WAP5	3470_B	WAP5	Coal Steam	650	none			Fabric Filter	
Texas	FORT BEND	W A PARISH	3470_B_WAP6	3470_B	WAP6	Coal Steam	650	none			Fabric Filter	
Texas	FORT BEND	W A PARISH	3470_B_WAP7	3470_B	WAP7	Coal Steam	560	none			Fabric Filter	
Texas	FORT BEND	W A PARISH	3470_B_WAP8	3470_B	WAP8	Coal Steam	555	none	Wet Scrubber	Wet Lime FGD	Fabric Filter	
Texas	TITUS	WELSH	6139_B_1	6139_B	1	Coal Steam	528	none			Hot-side ESP	
Texas	TITUS	WELSH	6139_B_2	6139_B	2	Coal Steam	528	none			Hot-side ESP	
Texas	TITUS	WELSH	6139_B_3	6139_B	3	Coal Steam	528	none			Hot-side ESP	
Utah	UINTAH	BONANZA	7790_B_1-1	7790_B	1-1	Coal Steam	425	none	Wet Scrubber	Spray type	Fabric Filter	
Utah	CARBON	CARBON	3644_B_1	3644_B	1	Coal Steam	70	none			Cold-side ESP	
Utah	CARBON	CARBON	3644_B_2	3644_B	2	Coal Steam	105	none			Cold-side ESP	
Utah	EMERY	HUNTER (EMERY)	6165_B_1	6165_B	1	Coal Steam	415	none	Wet Scrubber	Wet Lime FGD	Cold-side ESP	
Utah	EMERY	HUNTER (EMERY)	6165_B_2	6165_B	2	Coal Steam	415	none	Wet Scrubber	Wet Lime FGD	Cold-side ESP	
Utah	EMERY	HUNTER (EMERY)	6165_B_3	6165_B	3	Coal Steam	395	none	Wet Scrubber	Wet Lime FGD	Fabric Filter	
Utah	EMERY	HUNTINGTON	8069_B_1	8069_B	1	Coal Steam	420	none	Wet Scrubber	Wet Lime FGD	Cold-side ESP	
Utah	EMERY	HUNTINGTON	8069_B_2	8069_B	2	Coal Steam	425	none			Cold-side ESP	
Utah	MILLARD	INTERMOUNTAIN	6481_B_1SGA	6481_B	1SGA	Coal Steam	810	none	Wet Scrubber	Wet Limestone	Fabric Filter	
Utah	MILLARD	INTERMOUNTAIN	6481_B_2SGA	6481_B	2SGA	Coal Steam	810	none	Wet Scrubber	Wet Limestone	Fabric Filter	
Virginia	FLUVANNA	BREMO POWER STATION	3796_B_3	3796_B	3	Coal Steam	71	none			Hot-side ESP	
Virginia	FLUVANNA	BREMO POWER STATION	3796_B_4	3796_B	4	Coal Steam	156	SNCR			Hot-side ESP	
Virginia	Chesapeake City	CHESAPEAKE	3803_B_1	3803_B	1	Coal Steam	111	SNCR			Cold-side ESP	
Virginia	Chesapeake City	CHESAPEAKE	3803_B_2	3803_B	2	Coal Steam	111	SNCR			Cold-side ESP	
Virginia	Chesapeake City	CHESAPEAKE	3803_B_3	3803_B	3	Coal Steam	156	SCR	Wet Scrubber		Cold-side ESP	
Virginia	Chesapeake City	CHESAPEAKE	3803_B_4	3803_B	4	Coal Steam	217	SCR	Wet Scrubber		Cold-side ESP	
Virginia	CHESTERFIELD	CHESTERFIELD	3797_B_3	3797_B	3	Coal Steam	100	none			Cold-side ESP	
Virginia	CHESTERFIELD	CHESTERFIELD	3797_B_4	3797_B	4	Coal Steam	166	SCR			Cold-side ESP	
Virginia	CHESTERFIELD	CHESTERFIELD	3797_B_5	3797_B	5	Coal Steam	326	SCR			Cold-side ESP	
Virginia	CHESTERFIELD	CHESTERFIELD	3797_B_6	3797_B	6	Coal Steam	658	SCR			Cold-side ESP	
Virginia	RUSSELL	CLINCH RIVER	3775_B_1	3775_B	1	Coal Steam	230	none			Cold-side ESP	
Virginia	RUSSELL	CLINCH RIVER	3775_B_2	3775_B	2	Coal Steam	230	none			Cold-side ESP	
Virginia	RUSSELL	CLINCH RIVER	3775_B_3	3775_B	3	Coal Steam	230	none			Cold-side ESP	
Virginia	HALIFAX	CLOVER	7213_B_1	7213_B	1	Coal Steam	441	SNCR	Wet Scrubber	Wet Limestone	Fabric Filter	
Virginia	HALIFAX	CLOVER	7213_B_2	7213_B	2	Coal Steam	441	SNCR	Wet Scrubber	Wet Limestone	Fabric Filter	
Virginia	Prince George	Cogentrix Hopewell	10377_G_GEN1	10377_G	GEN1	Coal Steam	39,10765676	none	Dry Scrubber	Dry Lime FGD	Fabric Filter	
Virginia	Prince George	Cogentrix Hopewell	10377_G_GEN2	10377_G	GEN2	Coal Steam	39,10765676	none	Dry Scrubber	Dry Lime FGD	Fabric Filter	
Virginia	Portsmouth City	Cogentrix Portsmouth	10071_G_GEN1	10071_G	GEN1	Coal Steam	24,625523	none			Fabric Filter	
Virginia	Portsmouth City	Cogentrix Portsmouth	10071_G_GEN2	10071_G	GEN2	Coal Steam	24,625523	none			Fabric Filter	
Virginia	GILES	GLEN LYN	3776_B_51	3776_B	51	Coal Steam	45	none			Cold-side ESP	
Virginia	GILES	GLEN LYN	3776_B_52	3776_B	52	Coal Steam	45	none			Cold-side ESP	
Virginia	GILES	GLEN LYN	3776_B_6	3776_B	6	Coal Steam	235	none			Cold-side ESP	
Virginia	Campbell	LG&E Westmoreland Altavista	10773_G_GEN1	10773_G	GEN1	Coal Steam	57,09003249	SNCR	Dry Scrubber	Dry Lime FGD	Fabric Filter	

State Name	County	Plant Name	Unique Id	ORIS Code	BGCI	Unit ID	PeachanPlantType	Capacity MW	Post-CombControl	Wet/DryScrubber	SCRB_Type	PMatter_Type
Virginia	Franklin City	LG&E Westmoreland Southampton	10774_G_GEN1	10774_G_GEN1			Coal Steam	34.53674994	none	Dry Scrubber	Dry Lime FGD	Fabric Filter
Virginia	Alexandria City	POTOMAC RIVER	3788_B_1	3788_B	1		Coal Steam	88	Fuel Reburning			Hot-side ESP
Virginia	Alexandria City	POTOMAC RIVER	3788_B_2	3788_B	2		Coal Steam	88	Fuel Reburning			Hot-side ESP
Virginia	Alexandria City	POTOMAC RIVER	3788_B_3	3788_B	3		Coal Steam	102	Fuel Reburning			Hot-side ESP
Virginia	Alexandria City	POTOMAC RIVER	3788_B_4	3788_B	4		Coal Steam	102	Fuel Reburning			Hot-side ESP
Virginia	Alexandria City	POTOMAC RIVER	3788_B_5	3788_B	5		Coal Steam	102	Fuel Reburning			Hot-side ESP
Virginia	YORK	YORKTOWN	3809_B_1	3809_B	1		Coal Steam	159	SNCR			Cold-side ESP
Virginia	YORK	YORKTOWN	3809_B_2	3809_B	2		Coal Steam	167	SNCR			Cold-side ESP
Washington	LEWIS	CENTRALIA	3845_B_BW21	3845_B	BW21		Coal Steam	670	none	Wet Scrubber		Cold-side ESP
Washington	LEWIS	CENTRALIA	3845_B_BW22	3845_B	BW22		Coal Steam	670	none	Wet Scrubber		Cold-side ESP
West Virginia	PRESTON	ALBRIGHT	3942_B_1	3942_B	1		Coal Steam	73	none			Cold-side ESP
West Virginia	PRESTON	ALBRIGHT	3942_B_2	3942_B	2		Coal Steam	73	none			Cold-side ESP
West Virginia	PRESTON	ALBRIGHT	3942_B_3	3942_B	3		Coal Steam	137	none			Cold-side ESP
West Virginia	Monongalia	FORT MARTIN	3943_B_1	3943_B	1		Coal Steam	552	none			Cold-side ESP
West Virginia	Monongalia	FORT MARTIN	3943_B_2	3943_B	2		Coal Steam	555	SNCR			Cold-side ESP
West Virginia	Marion	Grant Town Power Plant	10151_G_GEN1	10151_G	GEN1		Coal Steam	83.75743853	none	Wet Scrubber	Fluidized Bed	Fabric Filter
West Virginia	HARRISON	HARRISON	3944_B_1	3944_B	1		Coal Steam	640	SCR			Cold-side ESP
West Virginia	HARRISON	HARRISON	3944_B_2	3944_B	2		Coal Steam	640	SCR			Cold-side ESP
West Virginia	HARRISON	HARRISON	3944_B_3	3944_B	3		Coal Steam	640	SCR			Cold-side ESP
West Virginia	PUTNAM	JOHN E AMOS	3935_B_1	3935_B	1		Coal Steam	800	SCR			Cold-side ESP
West Virginia	PUTNAM	JOHN E AMOS	3935_B_2	3935_B	2		Coal Steam	800	SCR			Cold-side ESP
West Virginia	PUTNAM	JOHN E AMOS	3935_B_3	3935_B	3		Coal Steam	1300	SCR			Cold-side ESP
West Virginia	MARSHALL	KAMMER	3947_B_1	3947_B	1		Coal Steam	200	none			Cold-side ESP
West Virginia	MARSHALL	KAMMER	3947_B_2	3947_B	2		Coal Steam	200	none			Cold-side ESP
West Virginia	MARSHALL	KAMMER	3947_B_3	3947_B	3		Coal Steam	200	none			Cold-side ESP
West Virginia	KANAWHA	KANAWHA RIVER	3936_B_1	3936_B	1		Coal Steam	195	none			Cold-side ESP
West Virginia	KANAWHA	KANAWHA RIVER	3936_B_2	3936_B	2		Coal Steam	195	none			Cold-side ESP
West Virginia	MARSHALL	MITCHELL	3948_B_1	3948_B	1		Coal Steam	800	none			Cold-side ESP
West Virginia	MARSHALL	MITCHELL	3948_B_2	3948_B	2		Coal Steam	800	none			Cold-side ESP
West Virginia	Monongalia	Morgantown Energy Facility	10743_G_GEN1	10743_G	GEN1		Coal Steam	59.79196648	none	Wet Scrubber	Fluidized Bed	Fabric Filter
West Virginia	MASON	MOUNTAINEER	6264_B_1	6264_B	1		Coal Steam	1300	SCR			Cold-side ESP
West Virginia	GRANT	MT STORM	3954_B_1	3954_B	1		Coal Steam	533	SCR			Cold-side ESP
West Virginia	GRANT	MT STORM	3954_B_2	3954_B	2		Coal Steam	533	SCR			Cold-side ESP
West Virginia	GREENBRIER	NORTH BRANCH POWER STATION	7537_B_1A	7537_B	1A		Coal Steam	37	none	Dry Scrubber	Fluidized Bed Limestone Injection	Fabric Filter
West Virginia	GREENBRIER	NORTH BRANCH POWER STATION	7537_B_1B	7537_B	1B		Coal Steam	37	none	Dry Scrubber	Fluidized Bed Limestone Injection	Fabric Filter
West Virginia	MASON	PHILIP SPORN	3938_B_11	3938_B	11		Coal Steam	145	none			Cold-side ESP
West Virginia	MASON	PHILIP SPORN	3938_B_21	3938_B	21		Coal Steam	145	none			Cold-side ESP
West Virginia	MASON	PHILIP SPORN	3938_B_31	3938_B	31		Coal Steam	145	none			Cold-side ESP
West Virginia	MASON	PHILIP SPORN	3938_B_41	3938_B	41		Coal Steam	145	none			Cold-side ESP
West Virginia	MASON	PHILIP SPORN	3938_B_51	3938_B	51		Coal Steam	440	none			Cold-side ESP
West Virginia	PLEASANTS	PLEASANTS	6004_B_1	6004_B	1		Coal Steam	614	none	Wet Scrubber	Wet Lime FGD	Cold-side ESP
West Virginia	PLEASANTS	PLEASANTS	6004_B_2	6004_B	2		Coal Steam	614	none	Wet Scrubber	Wet Lime FGD	Cold-side ESP
West Virginia	MARION	RIVESVILLE	3945_B_7	3945_B	7		Coal Steam	46	none			Cold-side ESP
West Virginia	MARION	RIVESVILLE	3945_B_8	3945_B	8		Coal Steam	91	none			Cold-side ESP
West Virginia	PLEASANTS	WILLOW ISLAND	3946_B_1	3946_B	1		Coal Steam	54	none			Cold-side ESP
West Virginia	PLEASANTS	WILLOW ISLAND	3946_B_2	3946_B	2		Coal Steam	181	none			Cold-side ESP
Wisconsin	BUFFALO	ALMA	4140_B_B1	4140_B	B1		Coal Steam	19.7847557	none			Cold-side ESP
Wisconsin	BUFFALO	ALMA	4140_B_B2	4140_B	B2		Coal Steam	19.7847557	none			Cold-side ESP
Wisconsin	BUFFALO	ALMA	4140_B_B3	4140_B	B3		Coal Steam	23.7004886	none			Cold-side ESP
Wisconsin	BUFFALO	ALMA	4140_B_B4	4140_B	B4		Coal Steam	57	none			Cold-side ESP
Wisconsin	BUFFALO	ALMA	4140_B_B5	4140_B	B5		Coal Steam	87	none			Cold-side ESP
Wisconsin	ASHLAND	BAY FRONT	3982_B_1	3982_B	1		Coal Steam	24.3	none			Hot-side ESP
Wisconsin	ASHLAND	BAY FRONT	3982_B_2	3982_B	2		Coal Steam	24.3	none			Hot-side ESP
Wisconsin	ASHLAND	BAY FRONT	3982_B_5	3982_B	5		Coal Steam	24.3	none			Other
Wisconsin	DANE	BLOUNT STREET	3992_B_7	3992_B	7		Coal Steam	23.71052632	none			Hot-side ESP
Wisconsin	DANE	BLOUNT STREET	3992_B_8	3992_B	8		Coal Steam	49.43000031	none			Cold-side ESP
Wisconsin	DANE	BLOUNT STREET	3992_B_9	3992_B	9		Coal Steam	48.79000092	none			Cold-side ESP
Wisconsin	COLUMBIA	COLUMBIA	8023_B_1	8023_B	1		Coal Steam	525	none			Hot-side ESP
Wisconsin	COLUMBIA	COLUMBIA	8023_B_2	8023_B	2		Coal Steam	525	none			Cold-side ESP
Wisconsin	SHEBOYGAN	EDGEWATER	4050_B_3	4050_B	3		Coal Steam	74	none			Cold-side ESP
Wisconsin	SHEBOYGAN	EDGEWATER	4050_B_4	4050_B	4		Coal Steam	342	none			Cold-side ESP
Wisconsin	SHEBOYGAN	EDGEWATER	4050_B_5	4050_B	5		Coal Steam	402	none			Cold-side ESP
Wisconsin	VERNON	GENOA	4143_B_1	4143_B	1		Coal Steam	377.2000122	none			Cold-side ESP
Wisconsin	BUFFALO	J P MADGETT	4271_B_B1	4271_B	B1		Coal Steam	377	none			Hot-side ESP
Wisconsin	MANITOWOC	MANITOWOC	4125_B_5	4125_B	5		Coal Steam	4.16666667	none			Cyclone
Wisconsin	MANITOWOC	MANITOWOC	4125_B_6	4125_B	6		Coal Steam	22.16666667	none			Fabric Filter
Wisconsin	MANITOWOC	MANITOWOC	4125_B_7	4125_B	7		Coal Steam	22.16666667	none			Fabric Filter
Wisconsin	MANITOWOC	MANITOWOC	4125_B_8	4125_B	8		Coal Steam	22.16666667	none	Dry Scrubber	Fluidized Bed Limestone Injection	Fabric Filter
Wisconsin	GRANT	NELSON DEWEY	4054_B_1	4054_B	1		Coal Steam	113	none			Hot-side ESP
Wisconsin	GRANT	NELSON DEWEY	4054_B_2	4054_B	2		Coal Steam	113	none			Hot-side ESP
Wisconsin	KENOSHA	PEASANT PRAIRIE	6170_B_1	6170_B	1		Coal Steam	600	none			Cold-side ESP
Wisconsin	KENOSHA	PEASANT PRAIRIE	6170_B_2	6170_B	2		Coal Steam	600	none			Cold-side ESP
Wisconsin	OZAUKEE	PORT WASHINGTON	4040_B_1	4040_B	1		Coal Steam	80	none	Dry Scrubber	Dry Sorbent Injection	Cold-side ESP
Wisconsin	OZAUKEE	PORT WASHINGTON	4040_B_2	4040_B	2		Coal Steam	83	none			Cold-side ESP
Wisconsin	OZAUKEE	PORT WASHINGTON	4040_B_3	4040_B	3		Coal Steam	83	none			Cold-side ESP
Wisconsin	OZAUKEE	PORT WASHINGTON	4040_B_4	4040_B	4		Coal Steam	80	none	Dry Scrubber	Dry Sorbent Injection	Cold-side ESP
Wisconsin	BROWN	PULLIAM	4072_B_3	4072_B	3		Coal Steam	28.6	none			Cold-side ESP

State Name	County	Plant Name	Unique Id	ORIS Code	BGCI	Unit ID	PechanPlantType	Capacity MW	Post-CombControl	Wet/DryScrubber	SCRB_Type	PMatter_Type
Wisconsin	BROWN	PULLIAM	4072_B_4	4072	B	4	Coal Steam	27	none		Cold-side ESP	
Wisconsin	BROWN	PULLIAM	4072_B_5	4072	B	5	Coal Steam	50.20000076	none		Cold-side ESP	
Wisconsin	BROWN	PULLIAM	4072_B_6	4072	B	6	Coal Steam	70.90000153	none		Cold-side ESP	
Wisconsin	BROWN	PULLIAM	4072_B_7	4072	B	7	Coal Steam	86.6999695	none		Cold-side ESP	
Wisconsin	BROWN	PULLIAM	4072_B_8	4072	B	8	Coal Steam	143.5	none		Cold-side ESP	
Wisconsin	ROCK	ROCK RIVER	4057_B_1	4057	B	1	Coal Steam	79	none		Cold-side ESP	
Wisconsin	ROCK	ROCK RIVER	4057_B_2	4057	B	2	Coal Steam	82	none		Cold-side ESP	
Wisconsin	MILWAUKEE	SOUTH OAK CREEK	4041_B_5	4041	B	5	Coal Steam	261	none		Cold-side ESP	
Wisconsin	MILWAUKEE	SOUTH OAK CREEK	4041_B_6	4041	B	6	Coal Steam	264	none		Cold-side ESP	
Wisconsin	MILWAUKEE	SOUTH OAK CREEK	4041_B_7	4041	B	7	Coal Steam	298	none		Cold-side ESP	
Wisconsin	MILWAUKEE	SOUTH OAK CREEK	4041_B_8	4041	B	8	Coal Steam	312	none		Cold-side ESP	
Wisconsin	MILWAUKEE	VALLEY	4042_B_1	4042	B	1	Coal Steam	69.64118958	none		Fabric Filter	
Wisconsin	MILWAUKEE	VALLEY	4042_B_2	4042	B	2	Coal Steam	70.35881042	none		Fabric Filter	
Wisconsin	MILWAUKEE	VALLEY	4042_B_3	4042	B	3	Coal Steam	70.9705658	none		Fabric Filter	
Wisconsin	MILWAUKEE	VALLEY	4042_B_4	4042	B	4	Coal Steam	69.0294342	none		Fabric Filter	
Wisconsin	MARATHON	WESTON	4078_B_1	4078	B	1	Coal Steam	61.5	none		Cold-side ESP	
Wisconsin	MARATHON	WESTON	4078_B_2	4078	B	2	Coal Steam	81.80000305	Fuel Reburning		Cold-side ESP	
Wisconsin	MARATHON	WESTON	4078_B_3	4078	B	3	Coal Steam	334.2999878	none		Hot-side ESP + Fabric Filter	
Wyoming	CONVERSE	DAVE JOHNSTON	4158_B_BW41	4158	B	BW41	Coal Steam	106	none		Cold-side ESP	
Wyoming	CONVERSE	DAVE JOHNSTON	4158_B_BW42	4158	B	BW42	Coal Steam	106	none		Cold-side ESP	
Wyoming	CONVERSE	DAVE JOHNSTON	4158_B_BW43	4158	B	BW43	Coal Steam	230	none		Cold-side ESP	
Wyoming	CONVERSE	DAVE JOHNSTON	4158_B_BW44	4158	B	BW44	Coal Steam	330	none	Wet Scrubber	Other	Wet Scrubber
Wyoming	SWEETWATER	JIM BRIDGER	8066_B_BW71	8066	B	BW71	Coal Steam	520	none	Wet Scrubber	Sodium based	Cold-side ESP
Wyoming	SWEETWATER	JIM BRIDGER	8066_B_BW72	8066	B	BW72	Coal Steam	520	none	Wet Scrubber	Sodium based	Cold-side ESP
Wyoming	SWEETWATER	JIM BRIDGER	8066_B_BW73	8066	B	BW73	Coal Steam	520	none	Wet Scrubber	Sodium based	Cold-side ESP
Wyoming	SWEETWATER	JIM BRIDGER	8066_B_BW74	8066	B	BW74	Coal Steam	520	none	Wet Scrubber	Sodium based	Cold-side ESP
Wyoming	PLATTE	LARAMIE RIVER	6204_B_1	6204	B	1	Coal Steam	550	none	Wet Scrubber	Wet Limestone	Cold-side ESP
Wyoming	PLATTE	LARAMIE RIVER	6204_B_2	6204	B	2	Coal Steam	550	none	Wet Scrubber	Wet Limestone	Cold-side ESP
Wyoming	PLATTE	LARAMIE RIVER	6204_B_3	6204	B	3	Coal Steam	550	none	Wet Scrubber	Wet Lime FGD	Cold-side ESP
Wyoming	LINCOLN	NAUGHTON	4162_B_1	4162	B	1	Coal Steam	160	none			Cold-side ESP
Wyoming	LINCOLN	NAUGHTON	4162_B_2	4162	B	2	Coal Steam	210	none			Cold-side ESP
Wyoming	LINCOLN	NAUGHTON	4162_B_3	4162	B	3	Coal Steam	330	none	Wet Scrubber	Sodium based	Cold-side ESP
Wyoming	CAMPBELL	NEIL SIMPSON 1	4150_B_5	4150	B	5	Coal Steam	14.60000038	none			Cold-side ESP
Wyoming	CAMPBELL	NEIL SIMPSON 2	7504_B_2	7504	B	2	Coal Steam	80	none	Dry Scrubber	Dry Scrubber	Cold-side ESP
Wyoming	WESTON	OSAGE	4151_B_1	4151	B	1	Coal Steam	10.15	none			Cold-side ESP
Wyoming	WESTON	OSAGE	4151_B_2	4151	B	2	Coal Steam	10.15	none			Cold-side ESP
Wyoming	WESTON	OSAGE	4151_B_3	4151	B	3	Coal Steam	10.15	none			Cold-side ESP
Wyoming	CAMPBELL	WYODAK	6101_B_BW91	6101	B	BW91	Coal Steam	335	none	Dry Scrubber	Dry Lime FGD	Cold-side ESP
California	LOS ANGELES	AES ALAMITOS	315_B_1	315	B	1	O/G Steam	165.7162247	SNCR			
California	LOS ANGELES	AES ALAMITOS	315_B_2	315	B	2	O/G Steam	165.7162247	SNCR			
California	LOS ANGELES	AES ALAMITOS	315_B_3	315	B	3	O/G Steam	303.0239538	SNCR			
California	LOS ANGELES	AES ALAMITOS	315_B_4	315	B	4	O/G Steam	303.0239538	SNCR			
California	LOS ANGELES	AES ALAMITOS	315_B_5	315	B	5	O/G Steam	454.5359307	SCR			
California	LOS ANGELES	AES ALAMITOS	315_B_6	315	B	6	O/G Steam	454.5359307	SCR			
California	LOS ANGELES	BROADWAY	420_B_B1	420	B	B1	O/G Steam	45	none			Cyclone
California	LOS ANGELES	BROADWAY	420_B_B3	420	B	B3	O/G Steam	71	SCR			PM Scrubber
California	CONTRA COSTA	CONTRA COSTA	228_B_10	228	B	10	O/G Steam	340	SCR			
California	LOS ANGELES	EL SEGUNDO	330_B_1	330	B	1	O/G Steam	158.1967657	SNCR			
California	LOS ANGELES	EL SEGUNDO	330_B_2	330	B	2	O/G Steam	158.1967657	SNCR			
California	LOS ANGELES	EL SEGUNDO	330_B_3	330	B	3	O/G Steam	302.8338087	SCR			
California	LOS ANGELES	EL SEGUNDO	330_B_4	330	B	4	O/G Steam	302.8338087	SNCR			
California	SAN DIEGO	ENCINA	302_B_4	302	B	4	O/G Steam	300	SCR			
California	SAN DIEGO	ENCINA	302_B_5	302	B	5	O/G Steam	330	SCR			
California	SAN BERNARDINO	ETIWANDA	331_B_1	331	B	1	O/G Steam	6.664425387	SNCR			
California	SAN BERNARDINO	ETIWANDA	331_B_2	331	B	2	O/G Steam	6.664425387	SNCR			
California	SAN BERNARDINO	ETIWANDA	331_B_3	331	B	3	O/G Steam	16.15618276	SCR			
California	SAN BERNARDINO	ETIWANDA	331_B_4	331	B	4	O/G Steam	16.15618276	SCR			
California	Los Angeles	Harbor	399_G_5	399	G	5	O/G Steam	86	SCR			
California	LOS ANGELES	HAYNES	400_B_1	400	B	1	O/G Steam	222	SCR			
California	LOS ANGELES	HAYNES	400_B_2	400	B	2	O/G Steam	222	SCR			
California	LOS ANGELES	HAYNES	400_B_5	400	B	5	O/G Steam	341	SCR			
California	LOS ANGELES	HAYNES	400_B_6	400	B	6	O/G Steam	341	SCR			
California	ORANGE	HUNTINGTON BEACH	335_B_1	335	B	1	O/G Steam	215	SNCR			
California	ORANGE	HUNTINGTON BEACH	335_B_2	335	B	2	O/G Steam	215	SNCR			
California	LOS ANGELES	OLIVE	6013_B_01	6013	B	01	O/G Steam	42	none			Cyclone
California	CONTRA COSTA	PITTSBURG	271_B_5	271	B	5	O/G Steam	325	SCR			
California	CONTRA COSTA	PITTSBURG	271_B_6	271	B	6	O/G Steam	325	SCR			
California	LOS ANGELES	REDONDO BEACH	356_B_5	356	B	5	O/G Steam	166.0043873	SNCR			
California	LOS ANGELES	REDONDO BEACH	356_B_6	356	B	6	O/G Steam	166.0043873	SNCR			
California	LOS ANGELES	REDONDO BEACH	356_B_7	356	B	7	O/G Steam	455.3263193	SCR			
California	LOS ANGELES	REDONDO BEACH	356_B_8	356	B	8	O/G Steam	455.3263193	SCR			
California	VENTURA	RELIANT MANDALAY	345_B_1	345	B	1	O/G Steam	215	SCR			
California	VENTURA	RELIANT MANDALAY	345_B_2	345	B	2	O/G Steam	215	SCR			
California	VENTURA	RELIANT ORMOND BEACH	350_B_1	350	B	1	O/G Steam	750	SCR			
California	VENTURA	RELIANT ORMOND BEACH	350_B_2	350	B	2	O/G Steam	750	SCR			
California	LOS ANGELES	SCATTERGOOD	404_B_1	404	B	1	O/G Steam	179	SNCR			
California	LOS ANGELES	SCATTERGOOD	404_B_2	404	B	2	O/G Steam	179	SNCR			
California	LOS ANGELES	SCATTERGOOD	404_B_3	404	B	3	O/G Steam	445	SCR			

State Name	County	Plant Name	Unique Id	ORIS Code	BGCI	Unit ID	PeachanPlantType	Capacity MW	Post-CombControl	Wet/DryScrubber	SCRB_Type	PMatter_Type
California	SAN DIEGO	SOUTH BAY	310_B_1	310_B	1	O/G Steam	147	SCR				
California	SAN DIEGO	SOUTH BAY	310_B_2	310_B	2	O/G Steam	150	SCR				
California	SAN DIEGO	SOUTH BAY	310_B_3	310_B	3	O/G Steam	171	SCR				
California	SAN DIEGO	SOUTH BAY	310_B_4	310_B	4	O/G Steam	222	SCR				
Colorado	DENVER	ZUNI	478_B_1	478_B	1	O/G Steam	28.36363636	none			Cyclone	
Colorado	DENVER	ZUNI	478_B_3	478_B	3	O/G Steam	68	none			Cyclone	
Connecticut	FAIRFIELD	BRIDGEPORT HARBOR	568_B_BHB1	568_B	BHB1	O/G Steam	82	none			Cold-side ESP	
Connecticut	FAIRFIELD	BRIDGEPORT HARBOR	568_B_BHB2	568_B	BHB2	O/G Steam	170	none			Cold-side ESP	
Connecticut	NEW HAVEN	DEVON	544_B_7	544_B	7	O/G Steam	107	none			Cold-side ESP	
Connecticut	NEW HAVEN	DEVON	544_B_8	544_B	8	O/G Steam	107	none			Cold-side ESP	
Connecticut	MIDDLESEX	MIDDLETOWN	562_B_1	562_B	1	O/G Steam	66.37000275	none			Cold-side ESP	
Connecticut	MIDDLESEX	MIDDLETOWN	562_B_2	562_B	2	O/G Steam	117	none			Cold-side ESP	
Connecticut	MIDDLESEX	MIDDLETOWN	562_B_3	562_B	3	O/G Steam	236	SNCR			Cold-side ESP	
Connecticut	NEW LONDON	MONTVILLE	546_B_5	546_B	5	O/G Steam	81	none			Cold-side ESP	
Connecticut	NEW HAVEN	NEW HAVEN HARBOR	6156_B_NHB1	6156_B	NHB1	O/G Steam	447	none			Cold-side ESP	
Connecticut	FAIRFIELD	NORWALK HARBOR	548_B_1	548_B	1	O/G Steam	162	SNCR			Cold-side ESP	
Connecticut	FAIRFIELD	NORWALK HARBOR	548_B_2	548_B	2	O/G Steam	168	SNCR			Cold-side ESP	
Delaware	NEW CASTLE	EDGE MOOR	593_B_5	593_B	5	O/G Steam	435	none			Cyclone	
Delaware	KENT	MCKEE RUN	599_B_1	599_B	1	O/G Steam	17	none			Cyclone	
Delaware	KENT	MCKEE RUN	599_B_2	599_B	2	O/G Steam	17	none			Cyclone	
Florida	BREVARD	CAPE CANAVERAL	609_B_PCC1	609_B	PCC1	O/G Steam	405	none			Cyclone	
Florida	BREVARD	CAPE CANAVERAL	609_B_PCC2	609_B	PCC2	O/G Steam	405	none			Cyclone	
Florida	DADE	CUTLER	610_B_PCU5	610_B	PCU5	O/G Steam	71	none			Cyclone	
Florida	DADE	CUTLER	610_B_PCU6	610_B	PCU6	O/G Steam	144	none			Cyclone	
Florida	ST. LUCIE	HENRY D KING	658_B_7	658_B	7	O/G Steam	33	none			Cyclone	
Florida	MANATEE	MANATEE	6042_B_PMT1	6042_B	PMT1	O/G Steam	819	none			Cyclone	
Florida	MANATEE	MANATEE	6042_B_PMT2	6042_B	PMT2	O/G Steam	819	none			Cyclone	
Florida	MARTIN	MARTIN	6043_B_PMR1	6043_B	PMR1	O/G Steam	814	none			Cyclone	
Florida	MARTIN	MARTIN	6043_B_PMR2	6043_B	PMR2	O/G Steam	808	none			Cyclone	
Florida	PINELLAS	P L BARTOW	634_B_1	634_B	1	O/G Steam	115	none			Cold-side ESP	
Florida	BROWARD	PORT EVERGLADES	617_B_PPE1	617_B	PPE1	O/G Steam	221	none			Cyclone	
Florida	BROWARD	PORT EVERGLADES	617_B_PPE2	617_B	PPE2	O/G Steam	222	none			Cyclone	
Florida	BROWARD	PORT EVERGLADES	617_B_PPE3	617_B	PPE3	O/G Steam	389	none			Cyclone	
Florida	BROWARD	PORT EVERGLADES	617_B_PPE4	617_B	PPE4	O/G Steam	395	none			Cyclone	
Florida	PALM BEACH	RIVIERA	619_B_PRV3	619_B	PRV3	O/G Steam	290	none			Cyclone	
Florida	PALM BEACH	RIVIERA	619_B_PRV4	619_B	PRV4	O/G Steam	290	none			Cyclone	
Florida	DADE	TURKEY POINT	621_B_PTP1	621_B	PTP1	O/G Steam	410	none			Cyclone	
Florida	DADE	TURKEY POINT	621_B_PTP2	621_B	PTP2	O/G Steam	400	none			Cyclone	
Illinois	MASON	HAVANA	891_B_6	891_B	6	O/G Steam	29.75	none			Hot-side ESP	
Iowa	DUBUQUE	DUBUQUE	1046_B_6	1046_B	6	O/G Steam	13	none			Hot-side ESP	
Iowa	CLINTON	MILTON L KAPP	1048_B_1	1048_B	1	O/G Steam	18	none			Cold-side ESP	
Louisiana	CALCASIEU	R S NELSON	1393_B_1A	1393_B	1A	O/G Steam	98	none			Fabric Filter	
Louisiana	CALCASIEU	R S NELSON	1393_B_2A	1393_B	2A	O/G Steam	98	none			Fabric Filter	
Louisiana	IBERVILLE	WILLOW GLEN	1394_B_3	1394_B	3	O/G Steam	522	none			Cold-side ESP	
Maine	LINCOLN	MASON STEAM	1496_B_3	1496_B	3	O/G Steam	31.66	none			Cyclone	
Maine	LINCOLN	MASON STEAM	1496_B_4	1496_B	4	O/G Steam	32.89	none			Cyclone	
Maine	LINCOLN	MASON STEAM	1496_B_5	1496_B	5	O/G Steam	33.23	none			Cyclone	
Maine	CUMBERLAND	WILLIAM F WYMAN	1507_B_1	1507_B	1	O/G Steam	53.5	none			Cyclone	
Maine	CUMBERLAND	WILLIAM F WYMAN	1507_B_2	1507_B	2	O/G Steam	53.5	none			Cyclone	
Maine	CUMBERLAND	WILLIAM F WYMAN	1507_B_3	1507_B	3	O/G Steam	116	none			Cyclone	
Maine	CUMBERLAND	WILLIAM F WYMAN	1507_B_4	1507_B	4	O/G Steam	614.5	Fuel Reburning			Cold-side ESP	
Maryland	BALTIMORE CITY	GOULD STREET	1553_B_3	1553_B	3	O/G Steam	104	none			Cold-side ESP	
Maryland	ANNE ARUNDEL	HERBERT A WAGNER	1554_B_1	1554_B	1	O/G Steam	137	none			Cold-side ESP	
Maryland	ANNE ARUNDEL	HERBERT A WAGNER	1554_B_4	1554_B	4	O/G Steam	410	none			Hot-side ESP	
Maryland	DORCHESTER	VIENNA	1564_B_8	1564_B	8	O/G Steam	151	none			Cyclone	
Massachusetts	MIDDLESEX	BLACKSTONE STREET	1594_B_11	1594_B	11	O/G Steam	3.325	Fuel Reburning			Cold-side ESP	
Massachusetts	MIDDLESEX	BLACKSTONE STREET	1594_B_12	1594_B	12	O/G Steam	3.325	Fuel Reburning			Cold-side ESP	
Massachusetts	BRISTOL	BRAYTON POINT	1619_B_4	1619_B	4	O/G Steam	420.242957	none			Cold-side ESP	
Massachusetts	BARNSTABLE	CANAL	1599_B_1	1599_B	1	O/G Steam	536.7300855	SCR			Cold-side ESP	
Massachusetts	BARNSTABLE	CANAL	1599_B_2	1599_B	2	O/G Steam	577	none			Cold-side ESP	
Massachusetts	MIDDLESEX	MYSTIC	1588_B_7	1588_B	7	O/G Steam	588.0437733	none			Cold-side ESP	
Massachusetts	ESSEX	SALEM HARBOR	1626_B_4	1626_B	4	O/G Steam	378.4703102	SNCR		Wet Scrubber	Cold-side ESP	
Massachusetts	HAMPDEN	WEST SPRINGFIELD	1642_B_1	1642_B	1	O/G Steam	51.21	none			Cold-side ESP	
Massachusetts	HAMPDEN	WEST SPRINGFIELD	1642_B_2	1642_B	2	O/G Steam	51.21	none			Cold-side ESP	
Massachusetts	HAMPDEN	WEST SPRINGFIELD	1642_B_3	1642_B	3	O/G Steam	107	none			Cold-side ESP	
Michigan	WAYNE	MISTERSKY	1822_B_5	1822_B	5	O/G Steam	44	none			Cyclone	
Michigan	WAYNE	MISTERSKY	1822_B_6	1822_B	6	O/G Steam	50	none			Cyclone	
Michigan	WAYNE	MISTERSKY	1822_B_7	1822_B	7	O/G Steam	60	none			Hot-side ESP	
Michigan	ST. CLAIR	ST CLAIR	1743_B_5	1743_B	5	O/G Steam	250	none			Cold-side ESP	
Minnesota	DAKOTA	BLACK DOG	1904_B_1	1904_B	1	O/G Steam	75	none			Cold-side ESP	
Minnesota	MARTIN	FOX LAKE	1888_B_3	1888_B	3	O/G Steam	84	none			Cold-side ESP	
New Hampshire	ROCKINGHAM	NEWINGTON	8002_B_1	8002_B	1	O/G Steam	406	none			Hot-side ESP	
New Jersey	CAPE MAY	B L ENGLAND	2378_B_3	2378_B	3	O/G Steam	155	SNCR			Cyclone	
New Jersey	HUDSON	KEARNY	2404_B_7	2404_B	7	O/G Steam	146	none			Cyclone	
New Jersey	HUDSON	KEARNY	2404_B_8	2404_B	8	O/G Steam	146	none			Cyclone	
New Jersey	MIDDLESEX	SEWAREN	2411_B_1	2411_B	1	O/G Steam	104	none			Cyclone	
New Jersey	MIDDLESEX	SEWAREN	2411_B_2	2411_B	2	O/G Steam	118	none			Cyclone	

State Name	County	Plant Name	Unique Id	ORIS Code	BGCI	Unit ID	PechanPlantType	Capacity MW	Post-CombControl	Wet/DryScrubber	SCRB_Type	PMatter_Type
New Jersey	MIDDLESEX	SEWAREN	2411_B_3	2411_B	3	O/G Steam	107	none			Cyclone	
New Jersey	MIDDLESEX	SEWAREN	2411_B_4	2411_B	4	O/G Steam	124	none			Cyclone	
New York	ALBANY	ALBANY	2539_B_1	2539_B	1	O/G Steam	97	none			Cyclone	
New York	ALBANY	ALBANY	2539_B_2	2539_B	2	O/G Steam	96.5	none			Cyclone	
New York	ALBANY	ALBANY	2539_B_3	2539_B	3	O/G Steam	95	none			Cyclone	
New York	ALBANY	ALBANY	2539_B_4	2539_B	4	O/G Steam	96	none			Cyclone	
New York	ORANGE	DANSKAMMER	2480_B_1	2480_B	1	O/G Steam	66.59999847	none			Cold-side ESP	
New York	ORANGE	DANSKAMMER	2480_B_2	2480_B	2	O/G Steam	66.63999939	none			Cold-side ESP	
New York	SUFFOLK	NORTHPORT	2516_B_1	2516_B	1	O/G Steam	379	none			Cold-side ESP	
New York	SUFFOLK	NORTHPORT	2516_B_2	2516_B	2	O/G Steam	395	none			Cold-side ESP	
New York	SUFFOLK	NORTHPORT	2516_B_3	2516_B	3	O/G Steam	375	none			Cold-side ESP	
New York	SUFFOLK	NORTHPORT	2516_B_4	2516_B	4	O/G Steam	383	none			Cold-side ESP	
New York	OSWEGO	OSWEGO	2594_B_5	2594_B	5	O/G Steam	782	none			Cold-side ESP	
New York	OSWEGO	OSWEGO	2594_B_6	2594_B	6	O/G Steam	819.5	none			Cold-side ESP	
New York	SUFFOLK	PORT JEFFERSON	2517_B_3	2517_B	3	O/G Steam	191	none			Cold-side ESP	
New York	SUFFOLK	PORT JEFFERSON	2517_B_4	2517_B	4	O/G Steam	191	none			Cold-side ESP	
New York	ORANGE	ROSETON	8006_B_1	8006_B	1	O/G Steam	601.7999878	none			Cyclone	
New York	ORANGE	ROSETON	8006_B_2	8006_B	2	O/G Steam	603.2999878	none			Cyclone	
Ohio	LORAIN	EDGEWATER	2857_B_13	2857_B	13	O/G Steam	100	none			Cold-side ESP	
Oklahoma	SEMINOLE	SEMINOLE	2956_B_3	2956_B	3	O/G Steam	500	none			Cyclone	
Pennsylvania	DELAWARE	EDDYSTONE	3161_B_3	3161_B	3	O/G Steam	380	none			Cold-side ESP	
Pennsylvania	DELAWARE	EDDYSTONE	3161_B_4	3161_B	4	O/G Steam	380	none			Cold-side ESP	
South Carolina	BERKELEY	JEFFERIES	3319_B_1	3319_B	1	O/G Steam	46	none			Cyclone	
South Carolina	BERKELEY	JEFFERIES	3319_B_2	3319_B	2	O/G Steam	46	none			Cyclone	
Texas	CHAMBERS	CEDAR BAYOU	3460_B_CBY2	3460_B	CBY2	O/G Steam	750	SCR				
Texas	COLLIN	COLLIN	3500_B_1	3500_B	1	O/G Steam	153	Fuel Reburning				
Texas	TARRANT	EAGLE MOUNTAIN	3489_B_1	3489_B	1	O/G Steam	115	Fuel Reburning				
Texas	TARRANT	HANDLEY	3491_B_2	3491_B	2	O/G Steam	80	Fuel Reburning				
Texas	TARRANT	HANDLEY	3491_B_3	3491_B	3	O/G Steam	400	Fuel Reburning				
Texas	DALLAS	LAKE HUBBARD	3452_B_1	3452_B	1	O/G Steam	393	Fuel Reburning				
Texas	DALLAS	NORTH LAKE	3454_B_1	3454_B	1	O/G Steam	175	Fuel Reburning				
Texas	DALLAS	NORTH LAKE	3454_B_2	3454_B	2	O/G Steam	175	Fuel Reburning				
Texas	DALLAS	NORTH LAKE	3454_B_3	3454_B	3	O/G Steam	365	Fuel Reburning				
Texas	TARRANT	NORTH MAIN	3493_B_4	3493_B	4	O/G Steam	80	Fuel Reburning				
Texas	GALVESTON	P H ROBINSON	3466_B_PHR4	3466_B	PHR4	O/G Steam	739	SCR				
Texas	DALLAS	PARKDALE	3455_B_1	3455_B	1	O/G Steam	87	Fuel Reburning				
Texas	LUBBOCK	PLANT 2	3604_B_7	3604_B	7	O/G Steam	22	SCR				
Texas	PALO PINTO	R W MILLER	3628_B_2	3628_B	2	O/G Steam	116	Fuel Reburning				
Texas	PALO PINTO	R W MILLER	3628_B_3	3628_B	3	O/G Steam	200	Fuel Reburning				
Texas	ORANGE	SABINE	3459_B_5	3459_B	5	O/G Steam	485	none			Cold-side ESP	
Vermont	CHITTENDEN	J C MCNEIL	589_B_1	589_B	1	O/G Steam	50	none			Hot-side ESP	
Virginia	PRINCE WILLIAM	POSSUM POINT	3804_B_1	3804_B	1	O/G Steam	74	none			Other	
Virginia	PRINCE WILLIAM	POSSUM POINT	3804_B_2	3804_B	2	O/G Steam	69	none			Other	
Virginia	PRINCE WILLIAM	POSSUM POINT	3804_B_5	3804_B	5	O/G Steam	786	none			Other	
Virginia	YORK	YORKTOWN	3809_B_3	3809_B	3	O/G Steam	818	none			Other	

## **Attachment G**

**Planned-Committed Units in NEEDS, v.2.1.6**

Planned/Committed units are ones that are likely to come on line through 2005. Two sources were used to identify the planned/committed units that are represented in v.2.1.6: RDI NewGen database (RDI) distributed by Platts ([www.platts.com](http://www.platts.com)) and the inventory of planned committed units assembled by the U.S. Department of Energy, Energy Information Administration, for Annual Energy Outlook 2003 (AEO 2003). Table G-1 summarizes by the data sources used to create the inventory of planned/committed units for v.2.1.6 and the total generating capacity identified by unit type and period covered. Tables G-2 and G-3 show the generating capacities that were found in the RDI and AEO 2003 data sources respectively.

Table G4, which follows the summary tables, is an excerpt from the National Electric Energy Data System (NEEDS) listing each of the planned/committed units included in v.2.1.6. NEEDS is the repository of data on all currently operating and planned/committed units represented in EPA's applications of the Integrated Planning Model. For ease of reference, entries in the attached NEEDS excerpt are sorted successively by unit type, IPM model region, and state. The full NEEDS, v.2.1.6 data base can be found on EPA's web page.

**Table G1**  
**Summary of Committed Units Listed in "CommittedUnits NEEDS216" Worksheet**

Type	Capacity (MW)	Year Range Described	Data Source in NEEDS 2.1.6
Renewables/Non Conventional			
Biomass	245	2002-2005	AEO 2003
Fuel Cell	18	2002-2005	AEO 2003
Geothermal	277	2002-2005	AEO 2003
Hydro	41	2002-2005	AEO 2003
Landfill Gas	316	2002-2005	AEO 2003
Non-Fossil Waste	123	2001-2005	RDI
Pumped Storage	300	2002-2005	AEO 2003
Solar	88	2002-2005	AEO 2003
Wind	2,809	2002-2005	AEO 2003
Fossil/Conventional			
Coal Steam	1,866	2001-2005	RDI
Combined Cycle	118,583	2001-2005	RDI
Turbine	55,880	2001-2005	RDI
Fossil Waste	80	2001-2005	RDI
<b>Grand Total</b>		<b>180,628</b>	

Data Sources	AEO 2003 (Describes 2002-2005)
Plant Type	(MW)
Biomass	245
Coal Steam	-
Combined Cycle	68,223
Fossil Waste	-
Fuel Cell	18
Geothermal	277
Hydro	41
Landfill Gas	-
MSW/LF	316
Non-Fossil Waste	-
Nuclear	-
Pump Storage	300
Solar	88
Turbine	26,358
Wind	2,809
<b>Total</b>	<b>98,677</b>

Data Sources	Table G3		
	Plant Type	(MW)	RDI (July 2002)
		2001	2002-2005
Biomass	Biomass	19	25
Coal Steam	Coal Steam	980	886
Combined Cycle	Combined Cycle	18,034	100,549
Fossil Waste	Fossil Waste	80	-
Fuel Cell	Fuel Cell	-	-
Geothermal	Geothermal	-	-
Hydro	Hydro	93	83
Landfill Gas	Landfill Gas	91	52
MSW/LF	MSW/LF	-	-
Non-Fossil Waste	Non-Fossil Waste	20	103
Nuclear	Nuclear	-	-
Pump Storage	Pump Storage	-	-
Solar	Solar	2	1
Turbine	Turbine	23,643	32,238
Wind	Wind	1,738	234
<b>Total</b>	<b>Total</b>	<b>44,701</b>	<b>134,171</b>
			<b>178,872</b>

	A	B	C	D	E	F	G	H	I	J
2	Plant Name	Unique Id	PechanPlantType	Region Name	Texas Region	State Name	County	County Code	Capacity MW	Util Heat Rate
3	AZNM_AZ_BIOMS	C001_C_C001	Biomass	AZNM		Arizona			13.14902054	8011
4	AZNM_NV_BIOMS	C005_C_C005	Biomass	AZNM		Nevada			4.95507179	8011
5	CALI_CA_BIOMS	C013_C_C013	Biomass	CALI		California			27.49819612	8011
6	ECAO_IL_BIOMS	C022_C_C022	Biomass	ECAO		Illinois			0.010022323	8011
7	MACE_NJ_BIOMS	C046_C_C046	Biomass	MACE		New Jersey			7.6	8011
8	MANO_IL_BIOMS	C056_C_C056	Biomass	MANO		Illinois			0.607275177	8011
9	MAPP_IL_BIOMS	C061_C_C061	Biomass	MAPP		Illinois			0.0011225	8011
10	MAPP_MN_BIOMS	C066_C_C066	Biomass	MAPP		Minnesota			150.15	8011
11	MAPP_WI_BIOMS	C075_C_C075	Biomass	MAPP		Wisconsin			2.195523588	8011
12	NENG_MA_BIOMS	C082_C_C082	Biomass	NENG		Massachusetts			15.39	8011
13	NWPE_NV_BIOMS	C088_C_C088	Biomass	NWPE		Nevada			4.54492821	8011
14	PNW_CA_BIOMS	C097_C_C097	Biomass	PNW		California			1.001803878	8011
15	PNW_WA_BIOMS	C106_C_C106	Biomass	PNW		Washington			5	8011
16	RMPA_AZ_BIOMS	C108_C_C108	Biomass	RMPA		Arizona			1.100979455	8011
17	WUMS_WI_BIOMS	C143_C_C143	Biomass	WUMS		Wisconsin			12.05447641	8011
18	ECAO_KY_STCOA	A169_C_A169	Coal Steam	ECAO		Kentucky			268	9000
19	MACW_PA_WC	A168_C_A168	Coal Steam	MACW		Pennsylvania			520	9000
20	MANO_IL_STCOA	A108_C_A108	Coal Steam	MANO		Illinois			18	9000
21	RMPA_WY_STCOA	A147_C_A147	Coal Steam	RMPA		Wyoming			80	9000
22	SPPN_MO_STCOA	A022_C_A022	Coal Steam	SPPN		Missouri			540	9000
23	TVA_MS_STCOA	A041_C_A041	Coal Steam	TVA		Mississippi			440	9000
24	AZNM_AZ_CGCC	A040_C_A040	Combined Cycle	AZNM		Arizona			1030	7500
25	AZNM_AZ_CC	A162_C_A162	Combined Cycle	AZNM		Arizona			6929	7500
26	AZNM_NV_CC	A122_C_A122	Combined Cycle	AZNM		Nevada			2477	7500
27	AZNM_NM_CC	A121_C_A121	Combined Cycle	AZNM		New Mexico			570	7500
28	CALI_CA_CGCC	A117_C_A117	Combined Cycle	CALI		California			2468	7500
29	CALI_CA_CC	A170_C_A170	Combined Cycle	CALI		California			5663	7500
30	DSNY_NY_CC	A123_C_A123	Combined Cycle	DSNY		New York			1830	7500
31	ECAO_IN_CGCC	A065_C_A065	Combined Cycle	ECAO		Indiana			525	7500
32	ECAO_IN_CC	A124_C_A124	Combined Cycle	ECAO		Indiana			1020	7500
33	ECAO_MI_CC	A125_C_A125	Combined Cycle	ECAO		Michigan			1152	7500
34	ECAO_OH_CC	A126_C_A126	Combined Cycle	ECAO		Ohio			2740	7500
35	ECAO_PA_CC	A127_C_A127	Combined Cycle	ECAO		Pennsylvania			1353	7500
36	ENTG_AR_CGCC	A039_C_A039	Combined Cycle	ENTG		Arkansas			213.3	7500
37	ENTG_AR_CC	A167_C_A167	Combined Cycle	ENTG		Arkansas			4330	7500
38	ENTG_LA_CGCC	A149_C_A149	Combined Cycle	ENTG		Louisiana			1678	7500
39	ENTG_LA_CC	A164_C_A164	Combined Cycle	ENTG		Louisiana			2939	7500
40	ENTG_MS_CC	A155_C_A155	Combined Cycle	ENTG		Mississippi			3518	7500
41	ENTG_TX_Rest of Texas - East_CGCC	B007_C_TX007	Combined Cycle	ENTG	Rest of Texas - East	Texas			420	7500
42	ERCT_TX_Rest of Texas - West_CC	B012_C_TX012	Combined Cycle	ERCT	Rest of Texas - West	Texas			1687	7500
43	ERCT_TX_East Central_CGCC	B013_C_TX013	Combined Cycle	ERCT	East Central	Texas			1512.7	7500
44	ERCT_TX_East Central_CC	B020_C_TX020	Combined Cycle	ERCT	East Central	Texas			2942	7500
45	ERCT_TX_Houston_CC	B021_C_TX021	Combined Cycle	ERCT	Houston	Texas			1108	7500
46	ERCT_TX_Rest of Texas - East_CC	B025_C_TX025	Combined Cycle	ERCT	Rest of Texas - East	Texas			6375	7500
47	ERCT_TX_Houston_CGCC	B026_C_TX026	Combined Cycle	ERCT	Houston	Texas			1978	7500
48	FRCC_FL_CC	A171_C_A171	Combined Cycle	FRCC		Florida			8346	7500
49	MACE_DE_CC	A069_C_A069	Combined Cycle	MACE		Delaware			500	7500
50	MACE_NJ_CC	A111_C_A111	Combined Cycle	MACE		New Jersey			2410	7500

	K	L	M	N	O	P	Q	R	S	T	U
2	On Line Year	SO2 Rate	Firing	Bottom	Reserve Margin Contribution %	Fossil Unit?	NOx Base Rate	NOx Policy Rate	MercuryEMF_01	MercuryEMF_02	After 2001
3	2005	0	other	other	100	Non-Fossil	0.02	0.02			yes
4	2005	0	other	other	100	Non-Fossil	0.02	0.02			yes
5	2005	0	other	other	100	Non-Fossil	0.02	0.02			yes
6	2005	0	other	other	100	Non-Fossil	0.02	0.02			yes
7	2005	0	other	other	100	Non-Fossil	0.02	0.02			yes
8	2005	0	other	other	100	Non-Fossil	0.02	0.02			yes
9	2005	0	other	other	100	Non-Fossil	0.02	0.02			yes
10	2005	0	other	other	100	Non-Fossil	0.02	0.02			yes
11	2005	0	other	other	100	Non-Fossil	0.02	0.02			yes
12	2005	0	other	other	100	Non-Fossil	0.02	0.02			yes
13	2005	0	other	other	100	Non-Fossil	0.02	0.02			yes
14	2005	0	other	other	100	Non-Fossil	0.02	0.02			yes
15	2005	0	other	other	100	Non-Fossil	0.02	0.02			yes
16	2005	0	other	other	100	Non-Fossil	0.02	0.02			yes
17	2005	0	other	other	100	Non-Fossil	0.02	0.02			yes
18	2004	0.25	PC	unknown	100	Fossil	0.11	0.11	0.1	0.1	yes
19	2004	0.25	other	other	100	Fossil	0.11	0.11	0.1	0.1	yes
20	2004	0.25	PC	unknown	100	Fossil	0.11	0.11	0.1	0.1	yes
21	2004	0.11	PC	unknown	100	Fossil	0.11	0.11	0.1	0.1	yes
22	2004	0.25	PC	unknown	100	Fossil	0.11	0.11	0.1	0.1	yes
23	2004	0.25	PC	unknown	100	Fossil	0.11	0.11	0.1	0.1	yes
24	2004	0	other	other	100	Fossil	0.02	0.02			yes
25	2004	0	other	other	100	Fossil	0.02	0.02			yes
26	2004	0	other	other	100	Fossil	0.02	0.02			yes
27	2004	0	other	other	100	Fossil	0.02	0.02			yes
28	2004	0	other	other	100	Fossil	0.02	0.02			yes
29	2004	0	other	other	100	Fossil	0.02	0.02			yes
30	2004	0	other	other	100	Fossil	0.02	0.02			yes
31	2004	0	other	other	100	Fossil	0.02	0.02			yes
32	2004	0	other	other	100	Fossil	0.02	0.02			yes
33	2004	0	other	other	100	Fossil	0.02	0.02			yes
34	2004	0	other	other	100	Fossil	0.02	0.02			yes
35	2004	0	other	other	100	Fossil	0.02	0.02			yes
36	2004	0	other	other	100	Fossil	0.02	0.02			yes
37	2004	0	other	other	100	Fossil	0.02	0.02			yes
38	2004	0	other	other	100	Fossil	0.02	0.02			yes
39	2004	0	other	other	100	Fossil	0.02	0.02			yes
40	2004	0	other	other	100	Fossil	0.02	0.02			yes
41	2004	0	other	other	100	Fossil	0.02	0.02			yes
42	2004	0	other	other	100	Fossil	0.02	0.02			yes
43	2004	0	other	other	100	Fossil	0.02	0.02			yes
44	2004	0	other	other	100	Fossil	0.02	0.02			yes
45	2004	0	other	other	100	Fossil	0.02	0.02			yes
46	2004	0	other	other	100	Fossil	0.02	0.02			yes
47	2004	0	other	other	100	Fossil	0.02	0.02			yes
48	2004	0	other	other	100	Fossil	0.02	0.02			yes
49	2004	0	other	other	100	Fossil	0.02	0.02			yes
50	2004	0	other	other	100	Fossil	0.02	0.02			yes

	A	B	C	D	E	F	G	H	I	J
2	Plant Name	Unique Id	PechanPlantType	Region Name	Texas Region	State Name	County	County Code	Capacity MW	Util Heat Rate
51	MACE_PA_CC	A058_C_A058	Combined Cycle	MACE		Pennsylvania			500	7500
52	MACE_PA_CGCC	A161_C_A161	Combined Cycle	MACE		Pennsylvania			725	7500
53	MACW_PA_CC	A128_C_A128	Combined Cycle	MACW		Pennsylvania			2645	7500
54	MANO_IL_CGCC	A021_C_A021	Combined Cycle	MANO		Illinois			40	7500
55	MANO_IL_CC	A129_C_A129	Combined Cycle	MANO		Illinois			2892	7500
56	MANO_MO_CC	A015_C_A015	Combined Cycle	MANO		Missouri			260	7500
57	MAPP_IL_CC	A019_C_A019	Combined Cycle	MAPP		Illinois			537.1	7500
58	MAPP_MN_CC	A086_C_A086	Combined Cycle	MAPP		Minnesota			290	7500
59	MAPP_NE_CC	A150_C_A150	Combined Cycle	MAPP		Nebraska			118	7500
60	MECS_MI_CGCC	A001_C_A001	Combined Cycle	MECS		Michigan			570	7500
61	MECS_MI_CC	A088_C_A088	Combined Cycle	MECS		Michigan			1286	7500
62	NENG_CT_CC	A148_C_A148	Combined Cycle	NENG		Connecticut			1876	7500
63	NENG_ME_CC	A002_C_A002	Combined Cycle	NENG		Maine			540	7500
64	NENG_MA_CC	A103_C_A103	Combined Cycle	NENG		Massachusetts			3992	7500
65	NENG_NH_CC	A094_C_A094	Combined Cycle	NENG		New Hampshire			1245	7500
66	NENG_RI_CC	A099_C_A099	Combined Cycle	NENG		Rhode Island			500	7500
67	NWPE_MT_CC	A151_C_A151	Combined Cycle	NWPE		Montana			240	7500
68	NYC_NY_CC	A156_C_A156	Combined Cycle	NYC		New York			242	7500
69	PNW_ID_CC	A037_C_A037	Combined Cycle	PNW		Idaho			260	7500
70	PNW_OR_CGCC	A032_C_A032	Combined Cycle	PNW		Oregon			464	7500
71	PNW_OR_CC	A100_C_A100	Combined Cycle	PNW		Oregon			661	7500
72	PNW_WA_CC	A157_C_A157	Combined Cycle	PNW		Washington			2080	7500
73	RMPA_CO_CC	A095_C_A095	Combined Cycle	RMPA		Colorado			849	7500
74	SOU_AL_CC	A130_C_A130	Combined Cycle	SOU		Alabama			5083	7500
75	SOU_AL_CGCC	A160_C_A160	Combined Cycle	SOU		Alabama			1015	7500
76	SOU_FL_CC	A066_C_A066	Combined Cycle	SOU		Florida			500	7500
77	SOU_FL_CGCC	A118_C_A118	Combined Cycle	SOU		Florida			240	7500
78	SOU_GA_CC	A165_C_A165	Combined Cycle	SOU		Georgia			4476	7500
79	SOU_MS_CC	A006_C_A006	Combined Cycle	SOU		Mississippi			1000	7500
80	SPPN_MO_CC	A062_C_A062	Combined Cycle	SPPN		Missouri			1018	7500
81	SPPS_LA_CGCC	A087_C_A087	Combined Cycle	SPPS		Louisiana			448	7500
82	SPPS_OK_CGCC	A119_C_A119	Combined Cycle	SPPS		Oklahoma			450	7500
83	SPPS_OK_CC	A131_C_A131	Combined Cycle	SPPS		Oklahoma			5233	7500
84	SPPS_TX_East Central_CC	B004_C_TX004	Combined Cycle	SPPS	East Central	Texas			745	7500
85	SPPS_TX_Rest of Texas - East_CC	B022_C_TX022	Combined Cycle	SPPS	Rest of Texas - East	Texas			1140	7500
86	TVA_AL_CGCC	A110_C_A110	Combined Cycle	TVA		Alabama			1290	7500
87	TVA_MS_CC	A158_C_A158	Combined Cycle	TVA		Mississippi			2500	7500
88	TVA_TN_CC	A089_C_A089	Combined Cycle	TVA		Tennessee			79	7500
89	VACA_NC_CC	A132_C_A132	Combined Cycle	VACA		North Carolina			940	7500
90	VACA_SC_CC	A077_C_A077	Combined Cycle	VACA		South Carolina			450	7500
91	VACA_SC_CGCC	A120_C_A120	Combined Cycle	VACA		South Carolina			1000	7500
92	VACA_VA_CC	A112_C_A112	Combined Cycle	VACA		Virginia			450	7500
93	CALI_CA_WASTE	A020_C_A020	Fossil Waste	CALI		California			20	11000
94	ECAO_KY_WASTE	A016_C_A016	Fossil Waste	ECAO		Kentucky			60	11000
95	AZNM_TX_FCELL	C010_C_C010	Fuel Cell	AZNM		Texas			0.001272579	7500
96	DSNY_NY_FCELL	C019_C_C019	Fuel Cell	DSNY		New York			0.305055237	7500
97	ENTG_TX_FCELL	C035_C_C035	Fuel Cell	ENTG		Texas			0.007574815	7500
98	ERCT_TX_FCELL	C038_C_C038	Fuel Cell	ERCT		Texas			0.162935698	7500

	K	L	M	N	O	P	Q	R	S	T	U
2	On Line Year	SO2 Rate	Firing	Bottom	Reserve Margin Contribution %	Fossil Unit?	NOx Base Rate	NOx Policy Rate	MercuryEMF_01	MercuryEMF_02	After 2001
51	2004	0	other	other	100	Fossil	0.02	0.02			yes
52	2004	0	other	other	100	Fossil	0.02	0.02			yes
53	2004	0	other	other	100	Fossil	0.02	0.02			yes
54	2004	0	other	other	100	Fossil	0.02	0.02			yes
55	2004	0	other	other	100	Fossil	0.02	0.02			yes
56	2004	0	other	other	100	Fossil	0.02	0.02			yes
57	2004	0	other	other	100	Fossil	0.02	0.02			yes
58	2004	0	other	other	100	Fossil	0.02	0.02			yes
59	2004	0	other	other	100	Fossil	0.02	0.02			yes
60	2004	0	other	other	100	Fossil	0.02	0.02			yes
61	2004	0	other	other	100	Fossil	0.02	0.02			yes
62	2004	0	other	other	100	Fossil	0.02	0.02			yes
63	2004	0	other	other	100	Fossil	0.02	0.02			yes
64	2004	0	other	other	100	Fossil	0.02	0.02			yes
65	2004	0	other	other	100	Fossil	0.02	0.02			yes
66	2004	0	other	other	100	Fossil	0.02	0.02			yes
67	2004	0	other	other	100	Fossil	0.02	0.02			yes
68	2004	0	other	other	100	Fossil	0.02	0.02			yes
69	2004	0	other	other	100	Fossil	0.02	0.02			yes
70	2004	0	other	other	100	Fossil	0.02	0.02			yes
71	2004	0	other	other	100	Fossil	0.02	0.02			yes
72	2004	0	other	other	100	Fossil	0.02	0.02			yes
73	2004	0	other	other	100	Fossil	0.02	0.02			yes
74	2004	0	other	other	100	Fossil	0.02	0.02			yes
75	2004	0	other	other	100	Fossil	0.02	0.02			yes
76	2004	0	other	other	100	Fossil	0.02	0.02			yes
77	2004	0	other	other	100	Fossil	0.02	0.02			yes
78	2004	0	other	other	100	Fossil	0.02	0.02			yes
79	2004	0	other	other	100	Fossil	0.02	0.02			yes
80	2004	0	other	other	100	Fossil	0.02	0.02			yes
81	2004	0	other	other	100	Fossil	0.02	0.02			yes
82	2004	0	other	other	100	Fossil	0.02	0.02			yes
83	2004	0	other	other	100	Fossil	0.02	0.02			yes
84	2004	0	other	other	100	Fossil	0.02	0.02			yes
85	2004	0	other	other	100	Fossil	0.02	0.02			yes
86	2004	0	other	other	100	Fossil	0.02	0.02			yes
87	2004	0	other	other	100	Fossil	0.02	0.02			yes
88	2004	0	other	other	100	Fossil	0.02	0.02			yes
89	2004	0	other	other	100	Fossil	0.02	0.02			yes
90	2004	0	other	other	100	Fossil	0.02	0.02			yes
91	2004	0	other	other	100	Fossil	0.02	0.02			yes
92	2004	0	other	other	100	Fossil	0.02	0.02			yes
93	2004	0	other	other	100	Fossil	0.131224492	0.131224492			yes
94	2004	0	other	other	100	Fossil	0.41561224	0.41561224			yes
95	2005	0	other	other	100	Non-Fossil	0	0			yes
96	2005	0	other	other	100	Non-Fossil	0	0			yes
97	2005	0	other	other	100	Non-Fossil	0	0			yes
98	2005	0	other	other	100	Non-Fossil	0	0			yes

	A	B	C	D	E	F	G	H	I	J
2	Plant Name	Unique Id	PechanPlantType	Region Name	Texas Region	State Name	County	County Code	Capacity MW	Util Heat Rate
99	LILC_NY_FCELL	C042_C_C042	Fuel Cell	LILC		New York			0.170350613	7500
100	MACE_NJ_FCELL	C047_C_C047	Fuel Cell	MACE		New Jersey			15.2	7500
101	NENG_CT_FCELL	C080_C_C080	Fuel Cell	NENG		Connecticut			1.02	7500
102	NYC_NY_FCELL	C094_C_C094	Fuel Cell	NYC		New York			0.281381799	7500
103	SPPS_TX_FCELL	C127_C_C127	Fuel Cell	SPPS		Texas			0.018216908	7500
104	UPNY_NY_FCELL	C133_C_C133	Fuel Cell	UPNY		New York			0.843212351	7500
105	AZNM_NV_GEO	C006_C_C006	Geothermal	AZNM		Nevada			27.74840202	32320
106	AZNM_NM_GEO	C009_C_C009	Geothermal	AZNM		New Mexico			0.803241918	32320
107	CALI_CA_GEO	C014_C_C014	Geothermal	CALI		California			215.3060514	32320
108	NWPE_NV_GEO	C089_C_C089	Geothermal	NWPE		Nevada			25.45159798	32320
109	PNW_CA_GEO	C098_C_C098	Geothermal	PNW		California			7.843948609	32320
110	RMPA_NM_GEO	C117_C_C117	Geothermal	RMPA		New Mexico			0.006926427	32320
111	SPPS_NM_GEO	C126_C_C126	Geothermal	SPPS		New Mexico			0.139831655	32320
112	AZNM_AZ_HYDRO	C002_C_C002	Hydro	AZNM		Arizona			0.692053713	0
113	CALI_CA_HYDRO	C015_C_C015	Hydro	CALI		California			20.26182872	0
114	ECAO_KY_HYDRO	C026_C_C026	Hydro	ECAO		Kentucky			11.84161584	0
115	MAPP_NE_HYDRO	C070_C_C070	Hydro	MAPP		Nebraska			0.636735495	0
116	MAPP_WY_HYDRO	C077_C_C077	Hydro	MAPP		Wyoming			0.062970605	0
117	NENG_NH_HYDRO	C085_C_C085	Hydro	NENG		New Hampshire			2.196	0
118	NWPE_WY_HYDRO	C092_C_C092	Hydro	NWPE		Wyoming			0.446534065	0
119	PNW_CA_HYDRO	C099_C_C099	Hydro	PNW		California			0.738171279	0
120	RMPA_AZ_HYDRO	C109_C_C109	Hydro	RMPA		Arizona			0.057946287	0
121	RMPA_NE_HYDRO	C114_C_C114	Hydro	RMPA		Nebraska			0.001664505	0
122	RMPA_WY_HYDRO	C119_C_C119	Hydro	RMPA		Wyoming			0.17369533	0
123	TVA_KY_HYDRO	C132_C_C132	Hydro	TVA		Kentucky			4.158384158	0
124	AZNM_AZ_LFGAS	C003_C_C003	Landfill Gas	AZNM		Arizona			10.51921644	13648
125	AZNM_TX_LFGAS	C011_C_C011	Landfill Gas	AZNM		Texas			0.52641244	13648
126	CALI_CA_LFGAS	C016_C_C016	Landfill Gas	CALI		California			112.2022887	13648
127	DSNY_NY_LFGAS	C020_C_C020	Landfill Gas	DSNY		New York			0.135368262	13648
128	ECAO_IL_LFGAS	C023_C_C023	Landfill Gas	ECAO		Illinois			0.357835906	13648
129	ECAO_IN_LFGAS	C025_C_C025	Landfill Gas	ECAO		Indiana			0.303105266	13648
130	ECAO_MD_LFGAS	C027_C_C027	Landfill Gas	ECAO		Maryland			0.113855069	13648
131	ECAO_MI_LFGAS	C028_C_C028	Landfill Gas	ECAO		Michigan			0.394423173	13648
132	ECAO_OH_LFGAS	C029_C_C029	Landfill Gas	ECAO		Ohio			4.71	13648
133	ECAO_PA_LFGAS	C030_C_C030	Landfill Gas	ECAO		Pennsylvania			0.248212178	13648
134	ECAO_VA_LFGAS	C032_C_C032	Landfill Gas	ECAO		Virginia			1.609829558	13648
135	ENTG_LA_LFGAS	C034_C_C034	Landfill Gas	ENTG		Louisiana			2.837653553	13648
136	ENTG_TX_LFGAS	C036_C_C036	Landfill Gas	ENTG		Texas			3.133382032	13648
137	ERCT_TX_LFGAS	C039_C_C039	Landfill Gas	ERCT		Texas			67.39963786	13648
138	FRCC_FL_LFGAS	C041_C_C041	Landfill Gas	FRCC		Florida			2.379931891	13648
139	LILC_NY_LFGAS	C043_C_C043	Landfill Gas	LILC		New York			0.075593085	13648
140	MACE_MD_LFGAS	C045_C_C045	Landfill Gas	MACE		Maryland			0.176647864	13648
141	MACE_NJ_LFGAS	C048_C_C048	Landfill Gas	MACE		New Jersey			11.4	13648
142	MACE_PA_LFGAS	C050_C_C050	Landfill Gas	MACE		Pennsylvania			0.246890205	13648
143	MACE_VA_LFGAS	C052_C_C052	Landfill Gas	MACE		Virginia			0.458657532	13648
144	MACS_MD_LFGAS	C053_C_C053	Landfill Gas	MACS		Maryland			3.699497067	13648
145	MACW_PA_LFGAS	C054_C_C054	Landfill Gas	MACW		Pennsylvania			0.554897618	13648
146	MANO_IL_LFGAS	C057_C_C057	Landfill Gas	MANO		Illinois			21.68208647	13648

	K	L	M	N	O	P	Q	R	S	T	U
2	On Line Year	SO2 Rate	Firing	Bottom	Reserve Margin Contribution %	Fossil Unit?	NOx Base Rate	NOx Policy Rate	MercuryEMF_01	MercuryEMF_02	After 2001
99	2005	0	other	other	100	Non-Fossil	0	0			yes
100	2005	0	other	other	100	Non-Fossil	0	0			yes
101	2005	0	other	other	100	Non-Fossil	0	0			yes
102	2005	0	other	other	100	Non-Fossil	0	0			yes
103	2005	0	other	other	100	Non-Fossil	0	0			yes
104	2005	0	other	other	100	Non-Fossil	0	0			yes
105	2005	0	other	other	100	Non-Fossil	0	0			yes
106	2005	0	other	other	100	Non-Fossil	0	0			yes
107	2005	0	other	other	100	Non-Fossil	0	0			yes
108	2005	0	other	other	100	Non-Fossil	0	0			yes
109	2005	0	other	other	100	Non-Fossil	0	0			yes
110	2005	0	other	other	100	Non-Fossil	0	0			yes
111	2005	0	other	other	100	Non-Fossil	0	0			yes
112	2005	0	other	other	100	Non-Fossil	0	0			yes
113	2005	0	other	other	100	Non-Fossil	0	0			yes
114	2005	0	other	other	100	Non-Fossil	0	0			yes
115	2005	0	other	other	100	Non-Fossil	0	0			yes
116	2005	0	other	other	100	Non-Fossil	0	0			yes
117	2005	0	other	other	100	Non-Fossil	0	0			yes
118	2005	0	other	other	100	Non-Fossil	0	0			yes
119	2005	0	other	other	100	Non-Fossil	0	0			yes
120	2005	0	other	other	100	Non-Fossil	0	0			yes
121	2005	0	other	other	100	Non-Fossil	0	0			yes
122	2005	0	other	other	100	Non-Fossil	0	0			yes
123	2005	0	other	other	100	Non-Fossil	0	0			yes
124	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
125	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
126	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
127	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
128	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
129	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
130	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
131	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
132	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
133	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
134	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
135	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
136	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
137	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
138	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
139	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
140	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
141	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
142	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
143	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
144	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
145	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
146	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes

	A	B	C	D	E	F	G	H	I	J
2	Plant Name	Unique Id	PechanPlantType	Region Name	Texas Region	State Name	County	County Code	Capacity MW	Util Heat Rate
147	MANO_IN_LFGAS	C059_C_C059	Landfill Gas	MANO		Indiana			0.006894734	13648
148	MAPP_IL_LFGAS	C062_C_C062	Landfill Gas	MAPP		Illinois			0.040077622	13648
149	MAPP_MI_LFGAS	C065_C_C065	Landfill Gas	MAPP		Michigan			0.000312762	13648
150	MAPP_MN_LFGAS	C067_C_C067	Landfill Gas	MAPP		Minnesota			3.04	13648
151	MAPP_NE_LFGAS	C071_C_C071	Landfill Gas	MAPP		Nebraska			3.032073788	13648
152	MAPP_WI_LFGAS	C076_C_C076	Landfill Gas	MAPP		Wisconsin			0.835069322	13648
153	MECS_MI_LFGAS	C079_C_C079	Landfill Gas	MECS		Michigan			4.00266746	13648
154	NENG_MA_LFGAS	C083_C_C083	Landfill Gas	NENG		Massachusetts			9.12	13648
155	NYC_NY_LFGAS	C095_C_C095	Landfill Gas	NYC		New York			0.124863173	13648
156	PNW_CA_LFGAS	C100_C_C100	Landfill Gas	PNW		California			4.087711332	13648
157	PNW_OR_LFGAS	C104_C_C104	Landfill Gas	PNW		Oregon			5.9	13648
158	RMPA_AZ_LFGAS	C110_C_C110	Landfill Gas	RMPA		Arizona			0.880783564	13648
159	RMPA_NE_LFGAS	C115_C_C115	Landfill Gas	RMPA		Nebraska			0.007926212	13648
160	SOU_FL_LFGAS	C121_C_C121	Landfill Gas	SOU		Florida			6.81088E-05	13648
161	SOU_GA_LFGAS	C122_C_C122	Landfill Gas	SOU		Georgia			8.82748896	13648
162	SOU_LA_LFGAS	C124_C_C124	Landfill Gas	SOU		Louisiana			0.065133643	13648
163	SPPS_LA_LFGAS	C125_C_C125	Landfill Gas	SPPS		Louisiana			1.087212804	13648
164	SPPS_TX_LFGAS	C128_C_C128	Landfill Gas	SPPS		Texas			7.53556767	13648
165	TVA_GA_LFGAS	C130_C_C130	Landfill Gas	TVA		Georgia			0.011023229	13648
166	UPNY_NY_LFGAS	C134_C_C134	Landfill Gas	UPNY		New York			0.374175481	13648
167	VACA_GA_LFGAS	C136_C_C136	Landfill Gas	VACA		Georgia			0.23148781	13648
168	VACA_NC_LFGAS	C138_C_C138	Landfill Gas	VACA		North Carolina			0.988	13648
169	VACA_SC_LFGAS	C139_C_C139	Landfill Gas	VACA		South Carolina			1.71	13648
170	VACA_VA_LFGAS	C140_C_C140	Landfill Gas	VACA		Virginia			14.41151291	13648
171	WUMS_MI_LFGAS	C142_C_C142	Landfill Gas	WUMS		Michigan			0.162596606	13648
172	WUMS_WI_LFGAS	C144_C_C144	Landfill Gas	WUMS		Wisconsin			4.584930678	13648
173	CALI_CA_OTHER	A107_C_A107	Non-Fossil Waste	CALI		California			1	11000
174	ECAO_VA_OTHER	A081_C_A081	Non-Fossil Waste	ECAO		Virginia			90.009	11000
175	ERCT_TX_Dallas/Fort Worth_OTHER	B008_C_TX008	Non-Fossil Waste	ERCT	Dallas/Fort Worth	Texas			10.4	11000
176	MACW_PA_OTHER	A004_C_A004	Non-Fossil Waste	MACW		Pennsylvania			9.5	11000
177	MAPP_IA_OTHER	A028_C_A028	Non-Fossil Waste	MAPP		Iowa			0.28	11000
178	TVA_MS_OTHER	A146_C_A146	Non-Fossil Waste	TVA		Mississippi			12	11000
179	WUMS_WI_OTHER	A056_C_A056	Non-Fossil Waste	WUMS		Wisconsin			0.2	11000
180	SOU_GA_PUMPS	C123_C_C123	Pumped Storage	SOU		Georgia			291.9786867	0
181	TVA_GA_PUMPS	C131_C_C131	Pumped Storage	TVA		Georgia			0.364605151	0
182	VACA_GA_PUMPS	C137_C_C137	Pumped Storage	VACA		Georgia			7.656708175	0
183	AZNM_AZ_SOLAR	C004_C_C004	Solar	AZNM		Arizona			34.72264162	0
184	AZNM_NV_SOLAR	C007_C_C007	Solar	AZNM		Nevada			26.07932521	0
185	CALI_CA_SOLAR	C017_C_C017	Solar	CALI		California			0.72363674	0
186	NWPE_NV_SOLAR	C090_C_C090	Solar	NWPE		Nevada			23.92067479	0
187	PNW_CA_SOLAR	C101_C_C101	Solar	PNW		California			0.02636326	0
188	RMPA_AZ_SOLAR	C111_C_C111	Solar	RMPA		Arizona			2.90735838	0
189	AZNM_AZ_CT	A163_C_A163	Turbine	AZNM		Arizona			1277	10930
190	AZNM_NV_CT	A134_C_A134	Turbine	AZNM		Nevada			90	10930
191	AZNM_NM_CT	A133_C_A133	Turbine	AZNM		New Mexico			254	10930
192	CALI_CA_CGCT	A090_C_A090	Turbine	CALI		California			114.4	10930
193	CALI_CA_CT	A113_C_A113	Turbine	CALI		California			2208.5	10930
194	ECAO_IN_CGCT	A053_C_A053	Turbine	ECAO		Indiana			50	10930

	K	L	M	N	O	P	Q	R	S	T	U
2	On Line Year	SO2 Rate	Firing	Bottom	Reserve Margin Contribution %	Fossil Unit?	NOx Base Rate	NOx Policy Rate	MercuryEMF_01	MercuryEMF_02	After 2001
147	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
148	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
149	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
150	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
151	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
152	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
153	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
154	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
155	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
156	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
157	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
158	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
159	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
160	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
161	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
162	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
163	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
164	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
165	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
166	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
167	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
168	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
169	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
170	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
171	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
172	2005	0	other	other	100	Non-Fossil	0.246	0.246			yes
173	2004	0	other	other	100	Non-Fossil	0	0			yes
174	2004	0	other	other	100	Non-Fossil	0	0			yes
175	2004	0	other	other	100	Non-Fossil	0	0			yes
176	2004	0	other	other	100	Non-Fossil	0	0			yes
177	2004	0	other	other	100	Non-Fossil	0	0			yes
178	2004	0	other	other	100	Non-Fossil	0	0			yes
179	2004	0	other	other	100	Non-Fossil	0	0			yes
180	2005	0	other	other	100	Non-Fossil	0	0			yes
181	2005	0	other	other	100	Non-Fossil	0	0			yes
182	2005	0	other	other	100	Non-Fossil	0	0			yes
183	2005	0	other	other	100	Non-Fossil	0	0			yes
184	2005	0	other	other	100	Non-Fossil	0	0			yes
185	2005	0	other	other	100	Non-Fossil	0	0			yes
186	2005	0	other	other	100	Non-Fossil	0	0			yes
187	2005	0	other	other	100	Non-Fossil	0	0			yes
188	2005	0	other	other	100	Non-Fossil	0	0			yes
189	2004	0	other	other	100	Fossil	0.08	0.08			yes
190	2004	0	other	other	100	Fossil	0.08	0.08			yes
191	2004	0	other	other	100	Fossil	0.08	0.08			yes
192	2004	0	other	other	100	Fossil	0.08	0.08			yes
193	2004	0	other	other	100	Fossil	0.08	0.08			yes
194	2004	0	other	other	100	Fossil	0.08	0.08			yes

	A	B	C	D	E	F	G	H	I	J
2	Plant Name	Unique Id	PechanPlantType	Region Name	Texas Region	State Name	County	County Code	Capacity MW	Util Heat Rate
195	ECAO_IN_CT	A135_C_A135	Turbine	ECAO		Indiana			1132.43	10930
196	ECAO_KY_CT	A073_C_A073	Turbine	ECAO		Kentucky			2197	10930
197	ECAO_MI_CT	A136_C_A136	Turbine	ECAO		Michigan			392	10930
198	ECAO_OH(CGCT)	A005_C_A005	Turbine	ECAO		Ohio			28	10930
199	ECAO_OH_CT	A137_C_A137	Turbine	ECAO		Ohio			4006	10930
200	ECAO_PA_CT	A138_C_A138	Turbine	ECAO		Pennsylvania			760	10930
201	ECAO_VA_CT	A024_C_A024	Turbine	ECAO		Virginia			250	10930
202	ECAO_WV_CT	A060_C_A060	Turbine	ECAO		West Virginia			1140	10930
203	ENTG_AR_CT	A116_C_A116	Turbine	ENTG		Arkansas			359.05	10930
204	ENTG_LA(CGCT)	A102_C_A102	Turbine	ENTG		Louisiana			602	10930
205	ENTG_LA_CT	A166_C_A166	Turbine	ENTG		Louisiana			1055.1	10930
206	ENTG_MS_CT	A114_C_A114	Turbine	ENTG		Mississippi			672.175	10930
207	ENTG_TX_Rest of Texas - East(CGCT)	B006_C_TX006	Turbine	ENTG	Rest of Texas - East	Texas			75	10930
208	ERCT_TX_East Central_CT	B002_C_TX002	Turbine	ERCT	East Central	Texas			200	10930
209	ERCT_TX_Dallas/Fort Worth_CT	B003_C_TX003	Turbine	ERCT	Dallas/Fort Worth	Texas			85	10930
210	ERCT_TX_Rest of Texas - East_CT	B010_C_TX010	Turbine	ERCT	Rest of Texas - East	Texas			275	10930
211	ERCT_TX_Houston_CT	B024_C_TX024	Turbine	ERCT	Houston	Texas			980	10930
212	ERCT_TX_Houston(CGCT)	B027_C_TX027	Turbine	ERCT	Houston	Texas			1240	10930
213	FRCC_FL(CGCT)	A068_C_A068	Turbine	FRCC		Florida			180	10930
214	FRCC_FL_CT	A153_C_A153	Turbine	FRCC		Florida			4713	10930
215	LILC_NY_CT	A082_C_A082	Turbine	LILC		New York			404.9	10930
216	MACE_DE(CGCT)	A030_C_A030	Turbine	MACE		Delaware			88	10930
217	MACE_DE_CT	A061_C_A061	Turbine	MACE		Delaware			378	10930
218	MACE_MD_CT	A139_C_A139	Turbine	MACE		Maryland			680	10930
219	MACE_NJ(CGCT)	A057_C_A057	Turbine	MACE		New Jersey			170	10930
220	MACE_NJ_CT	A115_C_A115	Turbine	MACE		New Jersey			774.6	10930
221	MACE_PA_CT	A154_C_A154	Turbine	MACE		Pennsylvania			550	10930
222	MACW_PA(CGCT)	A059_C_A059	Turbine	MACW		Pennsylvania			145	10930
223	MACW_PA_CT	A104_C_A104	Turbine	MACW		Pennsylvania			671	10930
224	MANO_IL_CT	A140_C_A140	Turbine	MANO		Illinois			6078.1	10930
225	MANO_MO_CT	A070_C_A070	Turbine	MANO		Missouri			1002	10930
226	MAPP_IA_CT	A141_C_A141	Turbine	MAPP		Iowa			340	10930
227	MAPP_MN(CGCT)	A014_C_A014	Turbine	MAPP		Minnesota			24	10930
228	MAPP_MN_CT	A173_C_A173	Turbine	MAPP		Minnesota			1102.7	10930
229	MAPP_NE_CT	A152_C_A152	Turbine	MAPP		Nebraska			460	10930
230	MAPP_WI_CT	A017_C_A017	Turbine	MAPP		Wisconsin			82	10930
231	MECS_MI_CT	A083_C_A083	Turbine	MECS		Michigan			1550	10930
232	NENG_CT_CT	A078_C_A078	Turbine	NENG		Connecticut			333	10930
233	NENG_MA_CT	A105_C_A105	Turbine	NENG		Massachusetts			157.5	10930
234	NWPE_MT_CT	A096_C_A096	Turbine	NWPE		Montana			160	10930
235	NWPE_NV_CT	A027_C_A027	Turbine	NWPE		Nevada			363.36	10930
236	NWPE_UT_CT	A097_C_A097	Turbine	NWPE		Utah			426.3	10930
237	NYC_NY_CT	A159_C_A159	Turbine	NYC		New York			459.6	10930
238	PNW_ID_CT	A038_C_A038	Turbine	PNW		Idaho			100	10930
239	PNW_OR_CT	A085_C_A085	Turbine	PNW		Oregon			134.5	10930
240	PNW_WA_CT	A074_C_A074	Turbine	PNW		Washington			560.6	10930
241	RMPA_CO_CT	A106_C_A106	Turbine	RMPA		Colorado			926	10930
242	RMPA_SD_CT	A063_C_A063	Turbine	RMPA		South Dakota			48	10930

	K	L	M	N	O	P	Q	R	S	T	U
2	On Line Year	SO2 Rate	Firing	Bottom	Reserve Margin Contribution %	Fossil Unit?	NOx Base Rate	NOx Policy Rate	MercuryEMF_01	MercuryEMF_02	After 2001
195	2004	0	other	other		100 Fossil	0.08	0.08			yes
196	2004	0	other	other		100 Fossil	0.08	0.08			yes
197	2004	0	other	other		100 Fossil	0.08	0.08			yes
198	2004	0	other	other		100 Fossil	0.08	0.08			yes
199	2004	0	other	other		100 Fossil	0.08	0.08			yes
200	2004	0	other	other		100 Fossil	0.08	0.08			yes
201	2004	0	other	other		100 Fossil	0.08	0.08			yes
202	2004	0	other	other		100 Fossil	0.08	0.08			yes
203	2004	0	other	other		100 Fossil	0.08	0.08			yes
204	2004	0	other	other		100 Fossil	0.08	0.08			yes
205	2004	0	other	other		100 Fossil	0.08	0.08			yes
206	2004	0	other	other		100 Fossil	0.08	0.08			yes
207	2004	0	other	other		100 Fossil	0.08	0.08			yes
208	2004	0	other	other		100 Fossil	0.08	0.08			yes
209	2004	0	other	other		100 Fossil	0.08	0.08			yes
210	2004	0	other	other		100 Fossil	0.08	0.08			yes
211	2004	0	other	other		100 Fossil	0.08	0.08			yes
212	2004	0	other	other		100 Fossil	0.08	0.08			yes
213	2004	0	other	other		100 Fossil	0.08	0.08			yes
214	2004	0	other	other		100 Fossil	0.08	0.08			yes
215	2004	0	other	other		100 Fossil	0.08	0.08			yes
216	2004	0	other	other		100 Fossil	0.08	0.08			yes
217	2004	0	other	other		100 Fossil	0.08	0.08			yes
218	2004	0	other	other		100 Fossil	0.08	0.08			yes
219	2004	0	other	other		100 Fossil	0.08	0.08			yes
220	2004	0	other	other		100 Fossil	0.08	0.08			yes
221	2004	0	other	other		100 Fossil	0.08	0.08			yes
222	2004	0	other	other		100 Fossil	0.08	0.08			yes
223	2004	0	other	other		100 Fossil	0.08	0.08			yes
224	2004	0	other	other		100 Fossil	0.08	0.08			yes
225	2004	0	other	other		100 Fossil	0.08	0.08			yes
226	2004	0	other	other		100 Fossil	0.08	0.08			yes
227	2004	0	other	other		100 Fossil	0.08	0.08			yes
228	2004	0	other	other		100 Fossil	0.08	0.08			yes
229	2004	0	other	other		100 Fossil	0.08	0.08			yes
230	2004	0	other	other		100 Fossil	0.08	0.08			yes
231	2004	0	other	other		100 Fossil	0.08	0.08			yes
232	2004	0	other	other		100 Fossil	0.08	0.08			yes
233	2004	0	other	other		100 Fossil	0.08	0.08			yes
234	2004	0	other	other		100 Fossil	0.08	0.08			yes
235	2004	0	other	other		100 Fossil	0.08	0.08			yes
236	2004	0	other	other		100 Fossil	0.08	0.08			yes
237	2004	0	other	other		100 Fossil	0.08	0.08			yes
238	2004	0	other	other		100 Fossil	0.08	0.08			yes
239	2004	0	other	other		100 Fossil	0.08	0.08			yes
240	2004	0	other	other		100 Fossil	0.08	0.08			yes
241	2004	0	other	other		100 Fossil	0.08	0.08			yes
242	2004	0	other	other		100 Fossil	0.08	0.08			yes

	A	B	C	D	E	F	G	H	I	J
2	Plant Name	Unique Id	PechanPlantType	Region Name	Texas Region	State Name	County	County Code	Capacity MW	Util Heat Rate
243	RMPA_WY_CT	A009_C_A009	Turbine	RMPA		Wyoming			40	10930
244	SOU_AL_CT	A142_C_A142	Turbine	SOU		Alabama			678	10930
245	SOU_GA_CT	A109_C_A109	Turbine	SOU		Georgia			3254	10930
246	SOU_MS_CT	A079_C_A079	Turbine	SOU		Mississippi			640	10930
247	SPPN_KS_CT	A018_C_A018	Turbine	SPPN		Kansas			150.5	10930
248	SPPN_KS_CGCT	A048_C_A048	Turbine	SPPN		Kansas			15	10930
249	SPPN_MO_CT	A072_C_A072	Turbine	SPPN		Missouri			816	10930
250	SPPS_AR_CT	A025_C_A025	Turbine	SPPS		Arkansas			153	10930
251	SPPS_LA_CGCT	A008_C_A008	Turbine	SPPS		Louisiana			2.92	10930
252	SPPS_LA_CT	A011_C_A011	Turbine	SPPS		Louisiana			165	10930
253	SPPS_OK_CT	A143_C_A143	Turbine	SPPS		Oklahoma			512	10930
254	SPPS_TX_East Central_CT	B005_C_TX005	Turbine	SPPS	East Central	Texas			100	10930
255	SPPS_TX_Rest of Texas - East_CT	B023_C_TX023	Turbine	SPPS	Rest of Texas - East	Texas			95	10930
256	TVA_KY_CT	A080_C_A080	Turbine	TVA		Kentucky			640	10930
257	TVA_MS_CT	A075_C_A075	Turbine	TVA		Mississippi			980	10930
258	TVA_TN_CT	A144_C_A144	Turbine	TVA		Tennessee			1560	10930
259	UPNY_NY_CT	A049_C_A049	Turbine	UPNY		New York			43	10930
260	VACA_NC_CT	A071_C_A071	Turbine	VACA		North Carolina			1240	10930
261	VACA_SC_CT	A145_C_A145	Turbine	VACA		South Carolina			1290	10930
262	VACA_VA_CT	A023_C_A023	Turbine	VACA		Virginia			491	10930
263	WUMS_WI_CT	A010_C_A010	Turbine	WUMS		Wisconsin			510	10930
264	AZNM_NV_WIND	C008_C_C008	Wind	AZNM		Nevada			44.33485285	0
265	AZNM_TX_WIND	C012_C_C012	Wind	AZNM		Texas			4.638216363	0
266	CALI_CA_WIND	C018_C_C018	Wind	CALI		California			438.2344098	0
267	DSNY_NY_WIND	C021_C_C021	Wind	DSNY		New York			63.77561054	0
268	ECAO_IL_WIND	C024_C_C024	Wind	ECAO		Illinois			0.826685216	0
269	ECAO_PA_WIND	C031_C_C031	Wind	ECAO		Pennsylvania			0.030731032	0
270	ECAO_WV_WIND	C033_C_C033	Wind	ECAO		West Virginia			104.1236046	0
271	ENTG_TX_WIND	C037_C_C037	Wind	ENTG		Texas			27.60820735	0
272	ERCT_TX_WIND	C040_C_C040	Wind	ERCT		Texas			593.8577418	0
273	LILC_NY_WIND	C044_C_C044	Wind	LILC		New York			35.61392512	0
274	MACE_NJ_WIND	C049_C_C049	Wind	MACE		New Jersey			14	0
275	MACE_PA_WIND	C051_C_C051	Wind	MACE		Pennsylvania			0.030567359	0
276	MACW_PA_WIND	C055_C_C055	Wind	MACW		Pennsylvania			0.06870161	0
277	MANO_IL_WIND	C058_C_C058	Wind	MANO		Illinois			50.09072604	0
278	MANO_IA_WIND	C060_C_C060	Wind	MANO		Iowa			1.430174269	0
279	MAPP_IL_WIND	C063_C_C063	Wind	MAPP		Illinois			0.092588744	0
280	MAPP_IA_WIND	C064_C_C064	Wind	MAPP		Iowa			90.36982573	0
281	MAPP_MN_WIND	C068_C_C068	Wind	MAPP		Minnesota			261.3	0
282	MAPP_MT_WIND	C069_C_C069	Wind	MAPP		Montana			8.026647447	0
283	MAPP_NE_WIND	C072_C_C072	Wind	MAPP		Nebraska			10.47262328	0
284	MAPP_ND_WIND	C073_C_C073	Wind	MAPP		North Dakota			23.5	0
285	MAPP_SD_WIND	C074_C_C074	Wind	MAPP		South Dakota			2.474019018	0
286	MAPP_WY_WIND	C078_C_C078	Wind	MAPP		Wyoming			0.168210414	0
287	NENG_ME_WIND	C081_C_C081	Wind	NENG		Maine			4.62	0
288	NENG_MA_WIND	C084_C_C084	Wind	NENG		Massachusetts			25	0
289	NWPE_CO_WIND	C086_C_C086	Wind	NWPE		Colorado			0.045764114	0
290	NWPE_MT_WIND	C087_C_C087	Wind	NWPE		Montana			89.71380987	0

	K	L	M	N	O	P	Q	R	S	T	U
2	On Line Year	SO2 Rate	Firing	Bottom	Reserve Margin Contribution %	Fossil Unit?	NOx Base Rate	NOx Policy Rate	MercuryEMF_01	MercuryEMF_02	After 2001
243	2004	0	other	other		100 Fossil	0.08	0.08			yes
244	2004	0	other	other		100 Fossil	0.08	0.08			yes
245	2004	0	other	other		100 Fossil	0.08	0.08			yes
246	2004	0	other	other		100 Fossil	0.08	0.08			yes
247	2004	0	other	other		100 Fossil	0.08	0.08			yes
248	2004	0	other	other		100 Fossil	0.08	0.08			yes
249	2004	0	other	other		100 Fossil	0.08	0.08			yes
250	2004	0	other	other		100 Fossil	0.08	0.08			yes
251	2004	0	other	other		100 Fossil	0.08	0.08			yes
252	2004	0	other	other		100 Fossil	0.08	0.08			yes
253	2004	0	other	other		100 Fossil	0.08	0.08			yes
254	2004	0	other	other		100 Fossil	0.08	0.08			yes
255	2004	0	other	other		100 Fossil	0.08	0.08			yes
256	2004	0	other	other		100 Fossil	0.08	0.08			yes
257	2004	0	other	other		100 Fossil	0.08	0.08			yes
258	2004	0	other	other		100 Fossil	0.08	0.08			yes
259	2004	0	other	other		100 Fossil	0.08	0.08			yes
260	2004	0	other	other		100 Fossil	0.08	0.08			yes
261	2004	0	other	other		100 Fossil	0.08	0.08			yes
262	2004	0	other	other		100 Fossil	0.08	0.08			yes
263	2004	0	other	other		100 Fossil	0.08	0.08			yes
264	2005	0	other	other		100 Non-Fossil	0	0			yes
265	2005	0	other	other		100 Non-Fossil	0	0			yes
266	2005	0	other	other		100 Non-Fossil	0	0			yes
267	2005	0	other	other		100 Non-Fossil	0	0			yes
268	2005	0	other	other		100 Non-Fossil	0	0			yes
269	2005	0	other	other		100 Non-Fossil	0	0			yes
270	2005	0	other	other		100 Non-Fossil	0	0			yes
271	2005	0	other	other		100 Non-Fossil	0	0			yes
272	2005	0	other	other		100 Non-Fossil	0	0			yes
273	2005	0	other	other		100 Non-Fossil	0	0			yes
274	2005	0	other	other		100 Non-Fossil	0	0			yes
275	2005	0	other	other		100 Non-Fossil	0	0			yes
276	2005	0	other	other		100 Non-Fossil	0	0			yes
277	2005	0	other	other		100 Non-Fossil	0	0			yes
278	2005	0	other	other		100 Non-Fossil	0	0			yes
279	2005	0	other	other		100 Non-Fossil	0	0			yes
280	2005	0	other	other		100 Non-Fossil	0	0			yes
281	2005	0	other	other		100 Non-Fossil	0	0			yes
282	2005	0	other	other		100 Non-Fossil	0	0			yes
283	2005	0	other	other		100 Non-Fossil	0	0			yes
284	2005	0	other	other		100 Non-Fossil	0	0			yes
285	2005	0	other	other		100 Non-Fossil	0	0			yes
286	2005	0	other	other		100 Non-Fossil	0	0			yes
287	2005	0	other	other		100 Non-Fossil	0	0			yes
288	2005	0	other	other		100 Non-Fossil	0	0			yes
289	2005	0	other	other		100 Non-Fossil	0	0			yes
290	2005	0	other	other		100 Non-Fossil	0	0			yes

	A	B	C	D	E	F	G	H	I	J
2	Plant Name	Unique Id	PechanPlantType	Region Name	Texas Region	State Name	County	County Code	Capacity MW	Util Heat Rate
291	NWPE_NV_WIND	C091_C_C091	Wind	NWPE		Nevada			40.66514715	0
292	NWPE_WY_WIND	C093_C_C093	Wind	NWPE		Wyoming			1.192805429	0
293	NYC_NY_WIND	C096_C_C096	Wind	NYC		New York			58.8263823	0
294	PNW_CA_WIND	C102_C_C102	Wind	PNW		California			15.96559022	0
295	PNW_MT_WIND	C103_C_C103	Wind	PNW		Montana			44.41333135	0
296	PNW_OR_WIND	C105_C_C105	Wind	PNW		Oregon			281.8	0
297	PNW_WA_WIND	C107_C_C107	Wind	PNW		Washington			44.8	0
298	RMPA_CO_WIND	C112_C_C112	Wind	RMPA		Colorado			161.9542359	0
299	RMPA_MT_WIND	C113_C_C113	Wind	RMPA		Montana			7.846211337	0
300	RMPA_NE_WIND	C116_C_C116	Wind	RMPA		Nebraska			0.027376721	0
301	RMPA_SD_WIND	C118_C_C118	Wind	RMPA		South Dakota			0.125980982	0
302	RMPA_WY_WIND	C120_C_C120	Wind	RMPA		Wyoming			0.463984157	0
303	SPPS_TX_WIND	C129_C_C129	Wind	SPPS		Texas			66.39583448	0
304	UPNY_NY_WIND	C135_C_C135	Wind	UPNY		New York			176.284082	0
305	VACA_WV_WIND	C141_C_C141	Wind	VACA		West Virginia			13.87639535	0

	K	L	M	N	O	P	Q	R	S	T	U
2	On Line Year	SO2 Rate	Firing	Bottom	Reserve Margin Contribution %	Fossil Unit?	NOx Base Rate	NOx Policy Rate	MercuryEMF_01	MercuryEMF_02	After 2001
291	2005	0	other	other	100	Non-Fossil	0	0			yes
292	2005	0	other	other	100	Non-Fossil	0	0			yes
293	2005	0	other	other	100	Non-Fossil	0	0			yes
294	2005	0	other	other	100	Non-Fossil	0	0			yes
295	2005	0	other	other	100	Non-Fossil	0	0			yes
296	2005	0	other	other	100	Non-Fossil	0	0			yes
297	2005	0	other	other	100	Non-Fossil	0	0			yes
298	2005	0	other	other	100	Non-Fossil	0	0			yes
299	2005	0	other	other	100	Non-Fossil	0	0			yes
300	2005	0	other	other	100	Non-Fossil	0	0			yes
301	2005	0	other	other	100	Non-Fossil	0	0			yes
302	2005	0	other	other	100	Non-Fossil	0	0			yes
303	2005	0	other	other	100	Non-Fossil	0	0			yes
304	2005	0	other	other	100	Non-Fossil	0	0			yes
305	2005	0	other	other	100	Non-Fossil	0	0			yes

## **Attachment H**

**Performance and Unit Cost Assumptions for Potential (New) Capacity  
from Conventional Fossil Technologies in v. 2.1.6**

For v. 2.1.6, cost and performance parameters for potential conventional pulverized coal, integrated gasification combined cycle, combined cycle, advanced combined cycle, and combustion turbine units were updated based on AEO 2003. The cost and performance parameters for all other types of potential units (i.e., advanced nuclear, renewable generating technologies, and fuel cells) are the same as in v.2.1. For details see sections 4.4.2 and 4.4.3 in “Documentation of EPA Modeling Applications (V.2.1) Using the Integrated Planning Model” at [www.epa.gov/airmarkets/epa-ipm](http://www.epa.gov/airmarkets/epa-ipm).

The following table shows the cost and performance assumptions that were updated in v.2.1.6.

**Table H1. Performance and Unit Cost Assumptions for Potential (New) Capacity that was Updated in v.2.1.6**

	Conventional Pulverized Coal	Integrated Gasification Combined Cycle	Combined Cycle	Advanced Combustion Turbine	Combustion Turbine
Size (MW)	400	428	400	120	160
First Year Available	2010	2010	2010	2005	2005
Lead Time(years)	4	4	3	2	2
Vintage #1 (years covered)	2010 & after	2010 & after	2010 & after	2005-2009	2005-2009
Vintage #2 (years covered)	—	—	—	2010 & after	2010 & after
Availability	85%	87.7%	90.4%	92.3%	92.3%
Assumed emission controls	Scrubber, SCR	SCR	SCR	None	None
Vintage #1					
Heat Rate (Btu/kWh)	8,689	7,378	7,056	9,384	10,930
Capital (\$/kW)	1,288	1,443	532	465	412
Fixed O&M (\$/kW/yr)	23.46	32.26	11.73	7.82	9.78
Variable O&M (\$/Mwh)	2.94	1.95	1.95	2.94	3.91
Vintage #2					
Heat Rate (Btu/kWh)	—	—	—	8,550	10,450
Capital (\$/kW)	—	—	—	394	405
Fixed O&M (\$/kW/yr)	—	—	—	7.82	9.78
Variable O&M (\$/Mwh)	—	—	—	2.94	3.91

Notes: (1) "Size" values shown in the table indicate the capacities of the units that were used in AEO 2003 in deriving the indicated cost and performance characteristics. They do not represent restrictions on the size of the units that IPM is able to build. (2) "Capital" cost represents overnight capital cost plus interest during construction. (3) "Variable O&M" costs for new units represented here were adjusted to be consistent with VOM cost assumptions for existing units. (4) "Fixed O&M" costs were adjusted to preserve new unit's total O&M. (5) All costs are expressed in 1999\$.

## **Attachment I**

### **Existing Nuclear Unit Cost Assumptions in v.2.1.6**

Plant Name	ORIS Code	Unit ID	FOM (1999 \$/kW-yr)	VOM (1999 mills/kWh)
Browns Ferry Nuclear	46	1N	59.5	0.32
BROWNS FERRY NUCLEAR	46	2N	59.5	0.32
BROWNS FERRY NUCLEAR	46	3N	59.5	0.32
CLINTON NUCLEAR	204	RPVN	184.6	1.32
WOLF CREEK NUCLEAR	210	WC1RN	92.9	0.56
SAN ONOFRE NUCLEAR	360	2N	140.3	0.86
SAN ONOFRE NUCLEAR	360	3N	140.3	0.86
WNP-2 NUCLEAR	371	1N	103.7	0.66
MILLSTONE	566	CE2N	161.9	1.17
MILLSTONE	566	WE3N	158.1	1.23
TURKEY POINT	621	PTP3N	105.2	0.57
TURKEY POINT	621	PTP4N	105.2	0.57
CRYSTAL RIVER	628	3N	182.8	1.24
VOGTLE NUCLEAR	649	UT1N	78.5	0.38
VOGTLE NUCLEAR	649	UT2N	78.5	0.38
DRESDEN NUCLEAR	869	2N	146.5	0.86
DRESDEN NUCLEAR	869	3N	146.5	0.86
QUAD CITIES NUCLEAR	880	1N	138.0	0.94
QUAD CITIES NUCLEAR	880	2N	138.0	0.94
DUANE ARNOLD NUCLEAR	1060	1	126.1	0.82
PILGRIM NUCLEAR	1590	RPVN	204.1	1.32
PALISADES NUCLEAR	1715	1	129.2	0.80
FERMI NUCLEAR	1729	B21N	109.8	0.75
MONTICELLO NUCLEAR	1922	1	109.6	0.70
PRAIRIE ISLAND NUCLEAR	1925	1	95.6	0.59
PRAIRIE ISLAND NUCLEAR	1925	2	95.6	0.59
FORT CALHOUN NUCLEAR	2289	1N	182.5	1.20
OYSTER CREEK NUCLEAR	2388	OC1N	204.6	1.32
SALEM NUCLEAR	2410	1N	141.5	0.98
SALEM NUCLEAR	2410	2N	141.5	0.98
INDIAN POINT NUCLEAR	2497	2N	187.6	1.25
NINE MILE POINT NUCLEAR	2589	1N	156.5	1.07
NINE MILE POINT NUCLEAR	2589	2N	117.7	0.78
PEACH BOTTOM NUCLEAR	3166	2N	115.1	0.64
PEACH BOTTOM NUCLEAR	3166	3N	115.1	0.64
H B ROBINSON	3251	2N	87.7	0.51
OCONEE NUCLEAR	3265	1N	97.1	0.66
OCONEE NUCLEAR	3265	2N	97.1	0.66
OCONEE NUCLEAR	3265	3N	97.1	0.66
VERMONT YANKEE NUCLEAR	3751	1N	190.7	1.18
SURRY NUCLEAR	3806	1N	84.2	0.46
SURRY NUCLEAR	3806	2N	84.2	0.46
POINT BEACH NUCLEAR	4046	1N	145.7	0.98
POINT BEACH NUCLEAR	4046	2N	145.7	0.98
WATERFORD #3 NUCLEAR	4270	W3-1N	131.6	0.67
DONALD C COOK NUCLEAR	6000	1N	156.8	1.14
DONALD C COOK NUCLEAR	6000	2N	156.8	1.14
JOSEPH M FARLEY NUCLEAR	6001	FNP-1N	100.8	0.65
JOSEPH M FARLEY NUCLEAR	6001	FNP-2N	100.8	0.65
PALO VERDE NUCLEAR	6008	1N	84.2	0.42
PALO VERDE NUCLEAR	6008	2N	84.2	0.42
PALO VERDE NUCLEAR	6008	3N	84.2	0.42
CALVERT CLIFFS NUCLEAR	6011	1N	111.0	0.61
CALVERT CLIFFS NUCLEAR	6011	2N	111.0	0.61

Plant Name	ORIS Code	Unit ID	FOM (1999 \$/kW-yr)	VOM (1999 mills/kWh)
BRUNSWICK NUCLEAR	6014	1N	82.1	0.42
BRUNSWICK NUCLEAR	6014	2N	82.1	0.42
HARRIS NUCLEAR	6015	1N	99.9	0.53
PERRY NUCLEAR	6020	1N	109.6	0.60
BRAIDWOOD NUCLEAR	6022	1N	91.6	0.51
BRAIDWOOD NUCLEAR	6022	2N	91.6	0.51
BYRON NUCLEAR	6023	1N	88.4	0.50
BYRON NUCLEAR	6023	2N	88.4	0.50
LA SALLE COUNTY NUCLEAR	6026	1N	112.5	0.78
LA SALLE COUNTY NUCLEAR	6026	2N	112.5	0.78
CATAWBA NUCLEAR	6036	1N	83.4	0.47
CATAWBA NUCLEAR	6036	2N	83.4	0.47
MCGUIRE NUCLEAR	6038	1N	91.6	0.49
MCGUIRE NUCLEAR	6038	2N	91.6	0.49
BEAVER VALLEY NUCLEAR	6040	1ABC	133.0	0.91
BEAVER VALLEY NUCLEAR	6040	2ABC	133.0	0.91
ST LUCIE NUCLEAR	6045	PSL1N	93.8	0.53
ST LUCIE NUCLEAR	6045	PSL2N	93.8	0.53
EDWIN I HATCH	6051	1N	99.6	0.69
EDWIN I HATCH	6051	2N	99.6	0.69
GRAND GULF NUCLEAR	6072	1BN	104.0	0.53
DIABLO CANYON NUCLEA	6099	1N	95.9	0.62
DIABLO CANYON NUCLEA	6099	2N	95.9	0.62
SUSQUEHANNA NUCLEAR	6103	1N	92.4	0.57
SUSQUEHANNA NUCLEAR	6103	2N	92.4	0.57
LIMERICK NUCLEAR	6105	1N	89.4	0.46
LIMERICK NUCLEAR	6105	2N	89.4	0.46
JAMES A FITZPATRICK	6110	1N	142.6	0.77
SEABROOK NUCLEAR	6115	RX1N	122.0	0.75
HOPE CREEK NUCLEAR	6118	1N	113.8	0.78
GINNA	6122	001N	142.5	0.74
SUMMER NUCLEAR	6127	XRE1N	87.8	0.51
COMANCHE PEAK NUCLEAR	6145	1N	81.8	0.52
COMANCHE PEAK NUCLEAR	6145	2N	81.8	0.52
DAVIS-BESSE	6149	1N	104.0	0.66
SEQUOYAH NUCLEAR	6152	1N	83.7	0.37
SEQUOYAH NUCLEAR	6152	2N	83.7	0.37
CALLAWAY NUCLEAR	6153	1N	87.6	0.57
NORTH ANNA NUCLEAR	6168	1N	68.6	0.35
NORTH ANNA NUCLEAR	6168	2N	68.6	0.35
SOUTH TEXAS NUCLEAR	6251	STP1N	92.4	0.48
SOUTH TEXAS NUCLEAR	6251	STP2N	92.4	0.48
RIVER BEND NUCLEAR	6462	1N	103.4	0.72
WATTS BAR NUCLEAR	7722	1N	99.2	0.57
THREE MILE ISLAND NUCLEA	8011	1N	131.3	0.93
KEWAUNEE NUCLEAR	8024	1N	113.5	0.83
COOPER NUCLEAR	8036	1N	135.2	0.93
ARKANSAS NUCLEAR ONE	8055	1N	116.0	0.56
ARKANSAS NUCLEAR ONE	8055	2N	116.0	0.56
INDIAN POINT 3 NUCLEAR	8907	1N	145.3	1.03

## **Attachment J**

**Nuclear Upratings and Scheduled Retirements (MW) as Incorporated in v.2.1.6 from AEO 2003**

The following table shows the AEO 2003 nuclear power plant uprating and scheduled retirement assumptions that were incorporated in v.2.1.6. Uprating refers to an increase in the effective capacity of a generating unit achieved either by engineering or operational means. Each existing nuclear unit is listed with upratings (positive numbers) and retirements (negative numbers) shown on an annual basis for the 2002-2016 period.

Plant Name	Unit	2002	2003	2004	2005	2006	2007	2008	2009	2010	2012	2013	2014	2015	2016
Arkansas Nuclear One	1	0	0	0	49	0	0	0	8	0	0	0	0	0	0
Arkansas Nuclear One	2	0	0	0	0	0	9	0	0	0	0	0	0	0	0
Beaver Valley	1	0	0	0	0	0	65	0	0	0	0	0	0	0	0
Beaver Valley	2	0	0	0	0	0	66	0	0	0	0	0	0	0	0
Braidwood	1	45	0	0	0	0	0	0	0	0	0	0	0	0	0
Braidwood	2	35	0	0	0	0	0	0	0	0	0	0	0	0	0
Browns Ferry	1	0	0	0	0	0	120	0	0	0	0	0	0	0	0
Browns Ferry	2	0	0	0	126	0	0	0	0	0	0	0	0	0	0
Browns Ferry	3	0	0	126	0	0	0	0	0	0	0	0	0	0	0
Brunswick	1	0	32	63	0	0	0	0	0	0	0	0	0	0	0
Brunswick	2	0	35	0	58	0	0	0	0	0	0	0	0	0	0
Byron	1	0	0	0	0	56	0	0	0	0	0	0	0	0	0
Byron	2	0	0	0	0	31	0	0	0	0	0	0	0	0	0
Callaway	1	0	0	11	0	0	0	0	0	0	0	0	0	0	0
Calvert Cliffs	1	10	0	30	0	0	0	0	0	0	0	0	0	0	0
Calvert Cliffs	2	0	10	0	0	0	0	0	0	0	0	0	0	0	0
Catawba	1	0	0	0	11	0	0	0	0	0	0	0	0	0	0
Catawba	2	0	0	0	11	0	0	0	0	0	0	0	0	0	0
Clinton	1	87	0	55	0	0	0	0	0	0	0	0	0	0	0
Comanche Peak	1	0	0	35	0	0	0	56	0	0	0	0	0	0	0
Comanche Peak	2	0	0	0	35	0	0	0	11	0	0	0	0	0	0
Cooper Station	1	0	0	0	0	0	0	0	0	0	0	76	0	0	0
Crystal River	3	8	0	0	0	0	0	0	0	0	0	0	0	0	0
Diablo Canyon	1	0	0	0	22	0	0	0	0	0	0	0	0	0	0
Diablo Canyon	2	0	0	0	22	0	0	0	0	0	0	0	0	0	0
Donald C Cook	1	0	0	0	17	0	0	0	0	0	0	0	0	0	0
Donald C Cook	2	0	0	0	0	0	0	-1,060	0	0	0	0	0	0	0
Dresden	2	63	0	0	0	0	0	0	0	0	0	0	0	0	0
Dresden	3	0	66	0	0	0	0	0	0	0	0	0	0	0	0
Duane Arnold	1	41	0	0	0	0	0	0	0	0	0	0	0	0	0
Edwin I Hatch	1	0	0	9	0	0	0	0	0	0	0	0	0	0	0
Edwin I Hatch	2	0	0	9	0	0	0	0	0	0	0	0	0	0	0
Fort Calhoun	1	0	0	0	0	0	0	0	0	0	0	0	95	0	0
Grand Gulf	1	21	0	0	0	0	0	0	0	0	145	0	0	0	0

Plant Name	Unit	2002	2003	2004	2005	2006	2007	2008	2009	2010	2012	2013	2014	2015	2016
H B Robinson	2	0	18	0	0	0	0	0	0	0	0	0	0	0	0
Harris	1	0	0	0	0	40	0	0	0	0	0	0	0	0	0
Hope Creek	1	0	0	100	0	0	0	0	0	0	0	0	0	0	0
Indian Point	2	0	0	0	0	0	14	0	0	0	0	0	0	0	0
Indian Point 3	3	0	0	0	0	0	0	0	0	0	0	-984	0	0	0
Joseph M Farley	1	0	0	18	0	0	0	0	0	0	0	0	0	0	0
Joseph M Farley	2	0	0	0	18	0	0	0	0	0	0	0	0	0	0
Limerick	1	0	0	0	0	0	0	0	0	0	0	0	0	0	114
Limerick	2	0	0	0	0	0	0	57	0	0	0	0	0	0	0
McGuire	1	0	0	0	0	0	0	0	0	0	0	0	0	110	0
McGuire	2	0	0	0	0	0	0	0	0	0	0	0	0	110	0
Millstone	3	0	0	0	0	0	11	0	0	0	0	0	0	0	0
North Anna	1	0	15	0	0	0	0	0	0	0	0	93	0	0	0
North Anna	2	0	0	15	0	0	0	0	0	0	0	92	0	0	0
Oconee	1	0	0	8	0	0	0	0	0	0	0	0	0	0	0
Oconee	2	0	0	8	0	0	0	0	0	0	0	0	0	0	0
Oconee	3	0	0	8	0	0	0	0	0	0	0	0	0	0	0
Oyster Creek	1	-14	0	0	0	0	0	0	0	0	0	0	0	0	0
Palisades	1	7	0	0	0	0	-767	0	0	0	0	0	0	0	0
Palo Verde	1	0	0	0	12	0	0	0	0	0	0	0	0	0	0
Palo Verde	2	0	55	0	12	0	0	0	0	0	0	0	0	0	0
Palo Verde	3	0	0	0	12	0	0	0	0	0	0	0	0	0	0
Peach Bottom	2	0	0	0	0	19	0	0	0	0	0	0	0	0	0
Peach Bottom	3	0	0	0	0	16	0	0	0	0	0	0	0	0	0
Pilgrim	1	0	0	0	0	0	10	0	0	0	0	0	0	0	0
Point Beach	1	0	7	0	0	0	0	0	0	0	0	0	0	0	0
Point Beach	2	0	7	0	0	0	0	0	0	0	0	0	0	0	0
Prairie Island	1	0	0	5	0	0	0	0	0	0	0	0	0	0	0
Prairie Island	2	0	0	5	0	0	0	0	0	0	0	0	0	0	0
Quad Cities	1	93	0	0	0	0	0	0	0	0	0	0	0	0	0
Quad Cities	2	80	0	0	0	0	0	0	0	0	0	0	0	0	0
River Bend	1	0	0	0	0	16	0	0	0	0	0	0	0	0	0
Salem	1	0	0	49	0	0	0	0	0	0	0	0	0	0	0
Salem	2	0	0	24	0	20	0	0	0	0	0	0	0	0	0

Plant Name	Unit	2002	2003	2004	2005	2006	2007	2008	2009	2010	2012	2013	2014	2015	2016
San Onofre	2	0	0	0	0	16	0	0	0	0	0	0	0	0	0
San Onofre	3	0	0	0	0	16	0	0	0	0	0	0	0	0	0
Sequoyah	1	6	19	0	0	0	0	0	0	0	0	112	0	0	0
Sequoyah	2	10	0	0	13	0	0	0	0	0	0	0	112	0	0
South Texas	1	0	0	0	0	0	0	64	0	0	0	0	0	0	0
South Texas	2	0	0	0	0	0	0	64	0	0	0	0	0	0	0
St Lucie	1	0	0	0	8	0	0	0	0	0	0	0	0	0	0
St Lucie	2	0	0	0	8	0	0	0	0	0	0	0	0	0	0
Summer	1	0	0	0	10	0	0	0	0	0	0	0	0	0	0
Surry	1	0	0	0	0	0	0	0	0	81	0	0	0	0	0
Surry	2	0	0	12	0	0	0	0	0	82	0	0	0	0	0
Susquehanna	1	15	0	35	0	0	0	0	0	0	0	0	0	0	0
Susquehanna	2	0	35	0	0	0	0	0	0	0	0	0	0	0	0
Three Mile Island	1	20	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey Point	3	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Turkey Point	4	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Vogtle	1	0	0	0	0	0	0	0	0	0	0	0	115	0	0
Vogtle	2	0	0	0	0	0	0	0	0	0	0	0	115	0	0
Waterford	3	0	0	0	66	0	0	0	0	0	0	0	0	0	0
Watts Bar	1	0	0	0	0	16	0	0	0	0	0	0	0	0	0
WNP 1 & 2	2	0	0	11	0	0	0	0	0	0	0	0	0	0	0
Wolf Creek	1	0	0	12	0	0	0	0	0	0	0	0	0	0	0

**Attachment K**  
**Mercury Emission Modification Factors Used in v.2.1.6**

Emission modification factors (EMFs) represent the mercury reductions attributable to different burner types and different configurations of SO<sub>2</sub>, NO<sub>x</sub>, and particulate controls at an electric generating unit. An EMF is the ratio of outlet mercury concentration to inlet mercury concentration and depends on the unit's burner type, particulate control, post-combustion NO<sub>x</sub> control and SO<sub>2</sub> scrubber control. In other words, the mercury reduction achieved (relative to the inlet rate) during combustion and flue-gas treatment processes is (1-EMF). The EMF varies by the type of coal (i.e. bituminous, sub-bituminous and lignite) used during the combustion process. Table K1 shows the EMFs used in v.2.1.6. These replace the EMFs previously assumed in v.2.1 that were listed in Table 5.7a in "Documentation of EPA Modeling Applications (V.2.1) Using the Integrated Planning Model" which can be viewed and downloaded at [www.epa.gov/airmarkets/epa-ipm](http://www.epa.gov/airmarkets/epa-ipm). Table K2 provides a key to the burner type designations appearing in Table K-1. This table reproduces Table 5.7b from the previously cited v.2.1 documentation report.

**Table K1 Mercury Emission Modification Factors Used in v.2.1.6**

Burner Type	Particulate Control	Post Combustion Control -- NO <sub>x</sub>	Post Combustion Control -- SO <sub>2</sub>	Bituminous EMF	Sub-bituminous EMF	Lignite EMF
Cyclone	No Control	None	None	1	1	1
Cyclone	No Control	None	Wet FGD	0.45	0.6	1
Cyclone	No Control	SCR	None	1	1	1
Cyclone	No Control	SCR	Wet FGD	0.1	0.49	1
Cyclone	No Control	SNCR	None	1	1	1
Cyclone	No Control	SNCR	Wet FGD	0.45	0.6	1
Cyclone	Cold side ESP	None	None	0.64	0.97	0.93
Cyclone	Cold side ESP	None	Wet FGD	0.46	0.84	0.58
Cyclone	Cold side ESP	None	Dry FGD	0.64	0.65	0.93
Cyclone	Cold side ESP	SCR	None	0.64	0.97	0.93
Cyclone	Cold side ESP	SCR	Wet FGD	0.1	0.34	0.58
Cyclone	Cold side ESP	SCR	Dry FGD	0.64	0.65	0.93
Cyclone	Cold side ESP	SNCR	None	0.64	0.97	0.93
Cyclone	Cold side ESP	SNCR	Wet FGD	0.46	0.84	0.58
Cyclone	Fabric Filter	None	None	0.11	0.27	1
Cyclone	Fabric Filter	None	Wet FGD	0.03	0.27	0.58
Cyclone	Fabric Filter	None	Dry FGD	0.4	0.95	0.91
Cyclone	Fabric Filter	SCR	None	0.11	0.27	1
Cyclone	Fabric Filter	SCR	Wet FGD	0.1	0.15	0.58
Cyclone	Fabric Filter	SCR	Dry FGD	0.4	0.95	0.91
Cyclone	Fabric Filter	SNCR	None	0.11	0.27	1
Cyclone	Fabric Filter	SNCR	Wet FGD	0.03	0.27	0.58
Cyclone	Fabric Filter	SNCR	Dry FGD	0.4	0.95	0.91
Cyclone	Hot side ESP	None	None	0.9	1	1
Cyclone	Hot side ESP	None	Wet FGD	0.58	0.6	1
Cyclone	Hot side ESP	None	Dry FGD	0.9	1	1
Cyclone	Hot side ESP	SCR	None	0.9	1	1
Cyclone	Hot side ESP	SNCR	None	0.9	1	1
Cyclone	PM Scrubber	None	None	0.8	1	1
Cyclone	No Control	SCR	Dry FGD	1	1	1
Cyclone	Hot side ESP	SCR	Dry FGD	0.9	1	1
Cyclone	Hot side ESP	SNCR	Dry FGD	0.9	1	1
Cyclone	No Control	SNCR	Dry FGD	1	1	1
Cyclone	Cold side ESP	SNCR	Dry FGD	0.64	0.65	0.93
FBC	No Control	None	None	1	1	1
FBC	No Control	None	Wet FGD	1	1	1
FBC	No Control	None	Dry FGD	0.45	0.45	1
FBC	No Control	SCR	None	1	1	1
FBC	No Control	SCR	Wet FGD	0.1	0.49	1
FBC	No Control	SNCR	None	1	1	1
FBC	No Control	SNCR	Dry FGD	0.45	0.45	1

Burner Type	Particulate Control	Post Combustion Control -- NO <sub>x</sub>	Post Combustion Control -- SO <sub>2</sub>	Bituminous EMF	Sub-bituminous EMF	Lignite EMF
FBC	Cold side ESP	None	None	0.65	0.65	0.62
FBC	Cold side ESP	None	Wet FGD	0.65	0.65	0.62
FBC	Cold side ESP	SCR	Wet FGD	0.1	0.34	0.62
FBC	Cold side ESP	SNCR	Wet FGD	0.65	0.65	0.62
FBC	Fabric Filter	None	None	0.05	0.43	0.43
FBC	Fabric Filter	None	Wet FGD	0.05	0.43	0.43
FBC	Fabric Filter	SCR	None	0.05	0.43	0.43
FBC	Fabric Filter	SCR	Wet FGD	0.05	0.43	0.43
FBC	Fabric Filter	SNCR	Wet FGD	0.05	0.43	0.43
FBC	No Control	SCR	Dry FGD	0.45	0.45	1
FBC	No Control	SNCR	Wet FGD	1	1	1
FBC	Fabric Filter	None	Dry FGD	0.05	0.43	0.43
FBC	Fabric Filter	SCR	Dry FGD	0.05	0.43	0.43
FBC	Fabric Filter	SNCR	Dry FGD	0.05	0.43	0.43
FBC	Fabric Filter	Fuel Reburn	Dry FGD	0.05	0.43	0.43
Other	No Control	None	None	1	1	1
Other	No Control	None	Wet FGD	0.58	0.7	1
Other	No Control	SCR	None	1	1	1
Other	No Control	SCR	Wet FGD	0.1	0.49	1
Other	No Control	SNCR	None	1	1	1
Other	No Control	SNCR	Wet FGD	0.58	0.7	1
Other	Cold side ESP	None	None	0.64	0.97	1
Other	Cold side ESP	None	Wet FGD	0.34	0.84	0.56
Other	Cold side ESP	None	Dry FGD	0.64	0.65	1
Other	Cold side ESP	SCR	None	0.64	0.97	1
Other	Cold side ESP	SNCR	None	0.64	0.97	1
Other	Fabric Filter	None	None	0.11	0.27	1
Other	Fabric Filter	None	Wet FGD	0.03	0.27	0.56
Other	Fabric Filter	None	Dry FGD	0.4	0.75	1
Other	Fabric Filter	SCR	None	0.11	0.27	1
Other	Fabric Filter	SCR	Wet FGD	0.1	0.27	0.56
Other	Fabric Filter	SCR	Dry FGD	0.4	0.75	1
Other	Fabric Filter	SNCR	Wet FGD	0.03	0.27	0.56
Other	Fabric Filter	SNCR	Dry FGD	0.4	0.75	1
Other	No Control	None	Dry FGD	1	1	1
Other	Hot side ESP	None	None	1	1	1
Other	Hot side ESP	None	Wet FGD	0.58	1	1
Other	Hot side ESP	None	Dry FGD	1	1	1
Other	Hot side ESP	SCR	None	1	1	1
Other	Hot side ESP	SNCR	None	1	1	1
Other	Cold side ESP	SCR	Wet FGD	0.1	0.73	0.56
Other	Cold side ESP	SNCR	Wet FGD	0.34	0.73	0.56
Other	Hot side ESP	SCR	Wet FGD	0.1	0.75	1
Other	Hot side ESP	SNCR	Wet FGD	0.58	1	1
Other	Cold side ESP	SCR	Dry FGD	0.64	0.65	1

Burner Type	Particulate Control	Post Combustion Control -- NO <sub>x</sub>	Post Combustion Control -- SO <sub>2</sub>	Bituminous EMF	Sub-bituminous EMF	Lignite EMF
Other	Hot side ESP	SCR	Dry FGD	1	1	1
Other	No Control	SCR	Dry FGD	1	1	1
Other	Cold side ESP	SNCR	Dry FGD	0.64	0.65	1
Other	Hot side ESP	SNCR	Dry FGD	1	1	1
Other	No Control	SNCR	Dry FGD	1	1	1
Other	Fabric Filter	SNCR	None	0.45	0.75	1
PC	No Control	None	None	1	1	1
PC	No Control	None	Dry FGD	0.6	0.85	1
PC	No Control	SCR	None	1	1	1
PC	No Control	SCR	Wet FGD	0.1	0.49	1
PC	No Control	SCR	Dry FGD	0.6	0.85	1
PC	No Control	SNCR	None	1	1	1
PC	No Control	SNCR	Wet FGD	0.58	0.7	1
PC	No Control	SNCR	Dry FGD	0.6	0.85	1
PC	Cold side ESP	None	None	0.64	0.97	1
PC	Cold side ESP + FF	None	None	0.2	0.75	1
PC	Cold side ESP + FF	None	Wet FGD	0.3	0.3	0.56
PC	Cold side ESP + FF	None	Dry FGD	0.05	0.75	1
PC	Cold side ESP + FF	SCR	None	0.2	0.75	1
PC	Cold side ESP + FF	SCR	Wet FGD	0.1	0.3	0.56
PC	Cold side ESP + FF	SCR	Dry FGD	0.05	0.75	1
PC	Cold side ESP + FF	SNCR	None	0.2	0.75	1
PC	Cold side ESP + FF	SNCR	Wet FGD	0.1	0.3	0.56
PC	Cold side ESP	None	Wet FGD	0.34	0.84	0.56
PC	Cold side ESP	None	Dry FGD	0.64	0.65	1
PC	Cold side ESP	None	DSI	0.55	0.85	1
PC	Cold side ESP	SCR	None	0.64	0.97	1
PC	Cold side ESP	SCR	Wet FGD	0.1	0.34	0.56
PC	Cold side ESP	SCR	Dry FGD	0.64	0.65	1
PC	Cold side ESP	SNCR	None	0.64	0.97	1
PC	Cold side ESP	SNCR	Wet FGD	0.34	0.65	0.56
PC	Cold side ESP	SNCR	Dry FGD	0.64	0.65	1
PC	No Control	None	Wet FGD	0.58	0.7	1
PC	Cyclone	None	Wet FGD	0.45	0.7	1
PC	Fabric Filter	None	None	0.11	0.27	1
PC	Fabric Filter	None	Wet FGD	0.03	0.27	0.56
PC	Fabric Filter	None	Dry FGD	0.05	0.75	1
PC	Fabric Filter	SCR	None	0.11	0.27	1
PC	Fabric Filter	SCR	Wet FGD	0.1	0.15	0.56
PC	Fabric Filter	SCR	Dry FGD	0.05	0.75	1
PC	Fabric Filter	SNCR	None	0.11	0.27	1
PC	Fabric Filter	SNCR	Wet FGD	0.03	0.27	0.56
PC	Fabric Filter	SNCR	Dry FGD	0.05	0.75	1
PC	Hot side ESP	None	None	0.9	0.94	1
PC	Hot side ESP + FF	None	Wet FGD	0.03	0.27	0.56

Burner Type	Particulate Control	Post Combustion Control -- NO <sub>x</sub>	Post Combustion Control -- SO <sub>2</sub>	Bituminous EMF	Sub-bituminous EMF	Lignite EMF
PC	Hot side ESP + FF	None	Dry FGD	0.05	0.75	1
PC	Hot side ESP + FF	SCR	Wet FGD	0.1	0.15	0.56
PC	Hot side ESP + FF	SCR	Dry FGD	0.05	0.75	1
PC	Hot side ESP + FF	SNCR	Wet FGD	0.03	0.27	0.56
PC	Hot side ESP + FF	SNCR	Dry FGD	0.05	0.75	1
PC	Hot side ESP	None	Wet FGD	0.58	0.8	1
PC	Hot side ESP	None	Dry FGD	0.6	0.85	1
PC	Hot side ESP	SCR	None	0.9	0.9	1
PC	Hot side ESP	SCR	Wet FGD	0.1	0.75	1
PC	Hot side ESP	SCR	Dry FGD	0.6	0.85	1
PC	Hot side ESP	SNCR	None	0.9	0.9	1
PC	Hot side ESP	SNCR	Wet FGD	0.58	0.75	1
PC	Hot side ESP	SNCR	Dry FGD	0.6	0.85	1
PC	PM Scrubber	None	None	0.9	0.91	1
PC	PM Scrubber	SCR	None	0.9	1	1
PC	Cold side ESP + FF	SNCR	Dry FGD	0.05	0.75	1
PC	Hot side ESP + FF	SCR	None	0.11	0.27	1
PC	Hot side ESP + FF	SNCR	None	0.11	0.27	1
PC	Hot side ESP + FF	None	None	0.11	0.27	1
Stoker	Hot side ESP	SCR	Dry FGD	1	1	1
Stoker	No Control	None	None	1	1	1
Stoker	No Control	None	Wet FGD	0.58	1	1
Stoker	No Control	SCR	None	1	1	1
Stoker	No Control	SNCR	None	1	1	1
Stoker	Cold side ESP	None	None	0.65	0.97	1
Stoker	Cold side ESP	None	Wet FGD	0.34	0.84	0.56
Stoker	Cold side ESP	None	Dry FGD	0.65	0.65	1
Stoker	Cold side ESP	SCR	None	0.65	0.97	1
Stoker	Cold side ESP	SCR	Dry FGD	0.65	0.65	1
Stoker	Cold side ESP	SNCR	None	0.65	0.97	1
Stoker	Fabric Filter	None	None	0.11	0.27	1
Stoker	Fabric Filter	None	Wet FGD	0.03	0.27	0.56
Stoker	Fabric Filter	None	Dry FGD	0.1	0.75	1
Stoker	Fabric Filter	SCR	None	0.11	0.27	1
Stoker	Fabric Filter	SCR	Dry FGD	0.1	0.75	1
Stoker	Fabric Filter	SNCR	None	0.11	0.27	1
Stoker	No Control	None	Dry FGD	1	1	1
Stoker	Hot side ESP	None	None	1	1	1
Stoker	Hot side ESP	None	Wet FGD	0.58	1	1
Stoker	Hot side ESP	None	Dry FGD	1	1	1
Stoker	Hot side ESP	SCR	None	1	1	1
Stoker	Hot side ESP	SNCR	None	1	1	1
Stoker	No Control	SCR	Dry FGD	1	1	1
Stoker	Cold side ESP	SCR	Wet FGD	0.1	0.73	0.56

Burner Type	Particulate Control	Post Combustion Control -- NO <sub>x</sub>	Post Combustion Control -- SO <sub>2</sub>	Bituminous EMF	Sub-bituminous EMF	Lignite EMF
Stoker	Cold side ESP	SNCR	Wet FGD	0.34	0.73	0.56
Stoker	Hot side ESP	SCR	Wet FGD	0.1	0.75	1
Stoker	Hot side ESP	SNCR	Wet FGD	0.58	1	1
Stoker	Fabric Filter	SCR	Wet FGD	0.1	0.15	0.56
Stoker	Fabric Filter	SNCR	Wet FGD	0.03	0.27	0.56
Stoker	No Control	SCR	Wet FGD	0.1	0.75	1
Stoker	No Control	SNCR	Wet FGD	0.58	1	1
Stoker	Cold side ESP	SNCR	Dry FGD	0.65	0.65	1
Stoker	Hot side ESP	SNCR	Dry FGD	1	1	1
Stoker	Fabric Filter	SNCR	Dry FGD	0.1	0.75	1
Stoker	No Control	SNCR	Dry FGD	1	1	1

**Table K2. Key to Burner Type Designations in Table 5.7a**

**“PC”** refers to conventional pulverized coal boilers. Typical configurations include wall-fired and tangentially fired boilers (also called T-fired boilers). In wall-fired boilers the burner's coal and air nozzles are mounted on a single wall or opposing walls. In tangentially fired boilers the burner's coal and air nozzles are mounted in each corner of the boiler.

**“Cyclone”** refers to cyclone boilers where air and crushed coal are injected tangentially into the boiler through a “cyclone burner” and “cyclone barrel” which create a swirling motion allowing smaller coal particles to be burned in suspension and larger coal particles to be captured on the cyclone barrel wall where they are burned in molten slag.

**“Stoker”** refers to stoker boilers where lump coal is fed continuously onto a moving grate or chain which moves the coal into the combustion zone in which air is drawn through the grate and ignition takes place. The carbon gradually burns off, leaving ash which drops off at the end into a receptacle, from which it is removed for disposal.

**“FBC”** refers to “fluidized bed combustion” where solid fuels are suspended on upward-blowing jets of air, resulting in a turbulent mixing of gas and solids and a tumbling action which provides especially effective chemical reactions and heat transfer during the combustion process.

**“Other”** refers to miscellaneous burner types including cell burners and arch-, roof-, and vertically-fired burner configurations.

## **Attachment L1**

**Activated Carbon Injection (ACI) Cost Equations in v.2.1.6 (Part I)**

The technology specifically designated for mercury control in v.2.1.6 policy runs is Activated Carbon Injection downstream of the combustion process in coal fired units. For v.2.1.6, data on the cost and performance of ACI were updated beyond the pilot study by U.S. Department of Energy's National Energy Technology Laboratory (NETL) and EPA's Office of Research and Development (ORD) that was used in v.2.1.

Tables L1-1 and L1-2 provide illustrations of the costs resulting at ACI mercury removal rates of 90% and 60% respectively. These tables show the costs for all 26 NETL-ORD coal types and control configurations at a 500 MW coal unit with a heat rate of 10,000 Btu/kWh. (Definitions of the control technology acronyms appearing in this table are given in Table L1-3. The coal sulfur grades shown in Tables L1-1 and L1-2 are defined as follows: coal with a sulfur content greater than 1.8% (by weight) is defined as "high sulfur" coal; coal with a sulfur content of 1.8% or lower (by weight) is considered "low sulfur" coal.) Note that due to constraints on model size and run time, the 60% removal option is intended to be applied only on selected sensitivity analysis runs.

For a detailed discussion of how the NETL-ORD study was used to derive the results shown in the tables in this attachment, refer to section 5.3.3 and Appendix A 5.3.2 in "Documentation of EPA Modeling Applications (V.2.1) Using the Integrated Planning Model" which can be viewed and downloaded at [www.epa.gov/airmarkets/epa-ipm](http://www.epa.gov/airmarkets/epa-ipm).

**Table L1-1: Cost Components for 90% Mercury Removal Efficiency Using ACI, for Representative 500 MW, 10,000 Btu/kWh Heat Rate Unit**

Coal Type	Existing Pollution Control Technology	Sulfur Level	Capital Cost (1999\$/kWh)	FOM (1999\$/kW/yr)	VOM (1999 mills/kWh)	Removal Efficiency (%)
Bituminous	ESP	L	37.17	5.29	0.27	90
Bituminous	ESP/O	L	37.17	5.29	0.27	90
Bituminous	ESP+FF	L	1.73	0.80	0.22	90
Bituminous	ESP+FGD	H	52.24	7.20	0.31	90
Bituminous	ESP+FGD+SCR	H			ACI not applicable	
Bituminous	ESP+SCR	L	37.17	5.29	0.27	90
Bituminous	FF	L	1.73	0.80	0.22	90
Bituminous	FF+DS	H	1.77	0.81	0.23	90
Bituminous	FF+FGD	H	1.77	0.81	0.23	90
Bituminous	HESP	L	37.17	5.29	0.27	90
Bituminous	HESP+FGD	H	52.24	7.20	0.31	90
Bituminous	HESP+SCR	L	37.17	5.29	0.27	90
Bituminous	PMSCRUB+FGD	H	52.24	7.20	0.31	90
Bituminous	PMSCRUB+FGD+SCR	H			ACI not applicable	
Bituminous	ESP	H	52.79	7.27	0.42	90
Bituminous	ESP/O	H	52.79	7.27	0.42	90
Bituminous	ESP+FF	H	2.32	0.87	0.34	90
Bituminous	ESP+FGD	L	36.76	5.24	0.20	90
Bituminous	ESP+FGD+SCR	L			ACI not applicable	
Bituminous	ESP+SCR	H	52.79	7.27	0.42	90
Bituminous	FF	H	2.32	0.87	0.34	90
Bituminous	FF+DS	L	1.32	0.75	0.14	90
Bituminous	FF+FGD	L	1.32	0.75	0.14	90
Bituminous	HESP	H	52.79	7.27	0.42	90
Bituminous	HESP+FGD	L	36.76	5.24	0.20	90
Bituminous	HESP+SCR	H	52.79	7.27	0.42	90
Bituminous	PMSCRUB+FGD	L	36.76	5.24	0.20	90
Bituminous	PMSCRUB+FGD+SCR	L			ACI not applicable	
Lignite	ESP	L	72.28	9.66	0.55	90
Lignite	ESP+FF	L	14.07	2.28	0.45	90
Lignite	ESP+FGD	L	72.28	9.66	0.55	90
Lignite	FF+DS	L	72.28	9.66	0.55	90
Lignite	FF+FGD	L	14.07	2.28	0.45	90
Subbituminous	ESP	L	48.33	6.70	0.38	90
Subbituminous	ESP+DS	L	48.33	6.70	0.38	90
Subbituminous	ESP+FGD	L	48.33	6.70	0.38	90
Subbituminous	ESP+SCR	L	48.33	6.70	0.38	90
Subbituminous	FF	L	2.16	0.85	0.30	90
Subbituminous	FF+DS	L	48.33	6.70	0.38	90
Subbituminous	FF+FGD	L	2.16	0.85	0.30	90
Subbituminous	HESP	L	48.33	6.70	0.38	90
Subbituminous	HESP+FGD	L	48.33	6.70	0.38	90
Subbituminous	HESP+SCR	L	48.33	6.70	0.38	90
Subbituminous	PMSCRUB	L	48.33	6.70	0.38	90
Subbituminous	PMSCRUB+FGD+SCR	L	48.33	6.70	0.38	90

**Table L1-2: Cost Components for 60% Mercury Removal Efficiency Using ACI, for Representative 500 MW, 10,000 Btu/kWh Heat Rate Unit**

Coal Type	Existing Pollution Control Technology	Sulfur Level	Capital Cost (1999\$/kWh)	FOM (1999\$/kW/yr)	VOM (1999 mills/kWh)	Removal Efficiency (%)
Bituminous	ESP	L	3.85	1.06	0.71	60
Bituminous	ESP/O	L	3.85	1.06	0.71	60
Bituminous	ESP+FF	L	0.84	0.69	0.07	60
Bituminous	ESP+FGD	H	3.26	0.98	0.56	60
Bituminous	ESP+FGD+SCR	H			ACI not applicable	
Bituminous	ESP+SCR	L	3.85	1.06	0.71	60
Bituminous	FF	L	0.84	0.69	0.07	60
Bituminous	FF+DS	H	1.12	0.73	0.11	60
Bituminous	FF+FGD	H	1.12	0.73	0.11	60
Bituminous	HESP	L	36.28	5.19	0.13	60
Bituminous	HESP+FGD	H	51.59	7.12	0.20	60
Bituminous	HESP+SCR	L	36.28	5.19	0.13	60
Bituminous	PMSCRUB+FGD	H	3.26	0.98	0.56	60
Bituminous	PMSCRUB+FGD+SCR	H			ACI not applicable	
Bituminous	ESP	H	5.18	1.21	1.11	60
Bituminous	ESP/O	H	5.18	1.21	1.11	60
Bituminous	ESP+FF	H	1.12	0.73	0.11	60
Bituminous	ESP+FGD	L	2.43	0.88	0.36	60
Bituminous	ESP+FGD+SCR	L			ACI not applicable	
Bituminous	ESP+SCR	H	5.18	1.21	1.11	60
Bituminous	FF	H	1.12	0.73	0.11	60
Bituminous	FF+DS	L	0.84	0.69	0.07	60
Bituminous	FF+FGD	L	0.84	0.69	0.07	60
Bituminous	HESP	H	51.59	7.12	0.20	60
Bituminous	HESP+FGD	L	36.28	5.19	0.13	60
Bituminous	HESP+SCR	H	51.59	7.12	0.20	60
Bituminous	PMSCRUB+FGD	L	2.43	0.88	0.36	60
Bituminous	PMSCRUB+FGD+SCR	L			ACI not applicable	
Lignite	ESP	L	17.29	2.67	1.37	60
Lignite	ESP+FF	L	12.72	2.12	0.18	60
Lignite	ESP+FGD	L	17.29	2.67	1.37	60
Lignite	FF+DS	L	70.93	9.50	0.29	60
Lignite	FF+FGD	L	12.72	2.12	0.18	60
Subbituminous	ESP	L	4.80	1.17	0.99	60
Subbituminous	ESP+DS	L	47.21	6.57	0.18	60
Subbituminous	ESP+FGD	L	4.80	1.17	0.99	60
Subbituminous	ESP+SCR	L	1.04	0.72	0.10	60
Subbituminous	FF	L	1.04	1.02	0.18	60
Subbituminous	FF+DS	L	47.21	6.57	0.18	60
Subbituminous	FF+FGD	L	1.04	0.72	0.10	60
Subbituminous	HESP	L	47.21	6.57	0.18	60
Subbituminous	HESP+FGD	L	47.21	6.57	0.18	60
Subbituminous	HESP+SCR	L	47.21	6.57	0.18	60
Subbituminous	PMSCRUB	L	4.80	1.17	0.99	60
Subbituminous	PMSCRUB+FGD+SCR	L	4.80	1.17	0.99	60

**Table L1-3: Definition of Acronyms for Existing Controls**

<b>Acronym</b>	<b>Description</b>
ESP	Electro Static Precipitator - Cold Side
HESP	Electro Static Precipitator - Hot Side
ESP/O	Electro Static Precipitator - Other
FF	Fabric Filter
FGD	Flue Gas Desulfurization - Wet
DS	Flue Gas Desulfurization - Dry
SCR	Selective Catalytic Reduction
PMSCRUB	Particulate Matter Scrubber

## **Attachment L2**

**Activated Carbon Injection (ACI) Cost Equations in v.2.1.6 (Part II)**

Tables L2-1 and L2-2 provide a summary of the sorbent-feed concentration and cost components of ACI for mercury removal efficiencies of 90% and 60% respectively. The capital and O&M cost components shown in the table below utilize the various cost components described in the text and equations that appear in Appendix A.5.3.2 in "Documentation of EPA Modeling Applications (V.2.1) Using the Integrated Planning Model" which can be viewed and downloaded at [www.epa.gov/airmarkets/epa-ipm](http://www.epa.gov/airmarkets/epa-ipm). This is supplemented by equations designed to capture an additional operations and maintenance (O&M) cost component "Bag Replacement Costs." The equation for this cost component appears in Table L2-3 of this attachment. To calculate costs shown in Tables L2-1 and L2-2, the referenced equations are taken from Appendix A 5.3.2 and Table L2-3. For example, to derive the O&M cost for the first configuration listed in Table L2-1 (i.e., configuration 1a, which is a unit with an cold side ESP burning bituminous low sulfur coal) at the 90% ACI removal rate would require using equations 1a+2b+2c+2e+2g from Appendix A5.3.2 and new equation 1b from Table L2-3.

For a detailed discussion of the equations referenced in Tables L2-1 and L2-2, refer to section 5.3.3 and Appendix A 5.3.2 in the v.2.1 documentation report referenced above. Also, note that due to constraints on model size and run time, the 60% removal option is intended to be applied only on selected sensitivity analysis runs.

**Table L2-1. Sorbent-Feed Concentration and Cost Components for 90% Mercury Removal Efficiency Using ACI**

#	Coal Type	Existing Pollution Control Technology	Sulfur Grade: H-High; L-Low	Sorbent Feed 90%	CAPITAL COST COMPONENTS	O&M COST COMPONENTS
1A	Bituminous	ESP	L	3	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
2A	Bituminous	ESP/O	L	3	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
3A	Bituminous	ESP+FF	L	3	(2)+(3)	1a+2b+2c+2e+2f
4A	Bituminous	ESP+FGD	H	2	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
5A	Bituminous	ESP+FGD+SCR	H	none	none	none
6A	Bituminous	ESP+SCR	L	3	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
7A	Bituminous	FF	L	3	(2)+(3)	1a+2b+2c+2e+2f
8A	Bituminous	FF+DS	H	2	(2)+(3)	1a+2b+2c+2e+2f
9A	Bituminous	FF+FGD	H	2	(2)+(3)	1a+2b+2c+2e+2f
10A	Bituminous	HESP	L	3	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
11A	Bituminous	HESP+FGD	H	2	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
12A	Bituminous	HESP+SCR	L	3	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
13A	Bituminous	PMSCRUB+FGD	H	2	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
14A	Bituminous	PMSCRUB+FGD+SCR	H	none	none	none
1B	Bituminous	ESP	H	3	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
2B	Bituminous	ESP/O	H	3	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
3B	Bituminous	ESP+FF	H	3	(2)+(3)	1a+2b+2c+2e+2f
4B	Bituminous	ESP+FGD	L	2	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
5B	Bituminous	ESP+FGD+SCR	L	none	none	none
6B	Bituminous	ESP+SCR	H	3	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
7B	Bituminous	FF	H	3	(2)+(3)	1a+2b+2c+2e+2f
8B	Bituminous	FF+DS	L	2	(2)+(3)	1a+2b+2c+2e+2f
9B	Bituminous	FF+FGD	L	2	(2)+(3)	1a+2b+2c+2e+2f
10B	Bituminous	HESP	H	3	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
11B	Bituminous	HESP+FGD	L	2	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
12B	Bituminous	HESP+SCR	H	3	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
13B	Bituminous	PMSCRUB+FGD	L	2	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
14B	Bituminous	PMSCRUB+FGD+SCR	L	none	none	none
15	Lignite	ESP	L	3	(1)+(2)+(3)+(4)	1a+2a+2b+2c+2d+2e+2g+1b
16	Lignite	ESP+FF	L	3	(1)+(2)+(3)	1a+2a+2b+2c+2d+2e+2f
17	Lignite	ESP+FGD	L	3	(1)+(2)+(3)+(4)	1a+2a+2b+2c+2d+2e+2g+1b
18	Lignite	FF+DS	L	3	(1)+(2)+(3)+(4)	1a+2a+2b+2c+2d+2e+2g+1b
19	Lignite	FF+FGD	L	3	(1)+(2)+(3)	1a+2a+2b+2c+2d+2e+2f
20	Subbituminous	ESP	L	3	(2)+(3)+(4)	1a+2b+2c+2e+1b
21	Subbituminous	ESP+DS	L	3	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
22	Subbituminous	ESP+FGD	L	3	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
23	Subbituminous	ESP+SCR	L	3	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
24	Subbituminous	FF	L	3	(2)+(3)	1a+2b+2c+2e+2f
25	Subbituminous	FF+DS	L	3	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
26	Subbituminous	FF+FGD	L	3	(2)+(3)	1a+2b+2c+2e+2f
27	Subbituminous	HESP	L	3	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
28	Subbituminous	HESP+FGD	L	3	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
29	Subbituminous	HESP+SCR	L	3	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
30	Subbituminous	PMSCRUB	L	3	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b

31	Subbituminous	PMSCRUB+FGD+SCR	L	3	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
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**Table L2-2. Sorbent-Feed Concentration and Cost Components for 60% Mercury Removal Efficiency Using ACI**

#	Coal Type	Existing Pollution Control Technology	Sulfur Grade: H-High; L-Low	Sorbent Feed 60%	CAPITAL COST COMPONENTS	O&M COST COMPONENTS
1A	Bituminous	ESP	L	10	(2)+(3)	1a+2b+2c+2e+2f
2A	Bituminous	ESP/O	L	10	(2)+(3)	1a+2b+2c+2e+2f
3A	Bituminous	ESP+FF	L	1	(2)+(3)	1a+2b+2c+2e+2f
4A	Bituminous	ESP+FGD	H	5	(2)+(3)	1a+2b+2c+2e+2f
5A	Bituminous	ESP+FGD+SCR	H	none	None	none
6A	Bituminous	ESP+SCR	L	10	(2)+(3)	1a+2b+2c+2e+2f
7A	Bituminous	FF	L	1	(2)+(3)	1a+2b+2c+2e+2f
8A	Bituminous	FF+DS	H	1	(2)+(3)	1a+2b+2c+2e+2f
9A	Bituminous	FF+FGD	H	1	(2)+(3)	1a+2b+2c+2e+2f
10A	Bituminous	HESP	L	1	2)+(3)+(4)	1a+2b+2c+2e+2g+1b
11A	Bituminous	HESP+FGD	H	1	2)+(3)+(4)	1a+2b+2c+2e+2g+1b
12A	Bituminous	HESP+SCR	L	1	2)+(3)+(4)	1a+2b+2c+2e+2g+1b
13A	Bituminous	PMSCRUB+FGD	H	5	(2)+(3)	1a+2b+2c+2e+2f
14A	Bituminous	PMSCRUB+FGD+SCR	H	none	None	none
1B	Bituminous	ESP	H	10	(2)+(3)	1a+2b+2c+2e+2f
2B	Bituminous	ESP/O	H	10	(2)+(3)	1a+2b+2c+2e+2f
3B	Bituminous	ESP+FF	H	1	(2)+(3)	1a+2b+2c+2e+2f
4B	Bituminous	ESP+FGD	L	5	(2)+(3)	1a+2b+2c+2e+2f
5B	Bituminous	ESP+FGD+SCR	L	none	None	none
6B	Bituminous	ESP+SCR	H	10	(2)+(3)	1a+2b+2c+2e+2f
7B	Bituminous	FF	H	1	(2)+(3)	1a+2b+2c+2e+2f
8B	Bituminous	FF+DS	L	1	(2)+(3)	1a+2b+2c+2e+2f
9B	Bituminous	FF+FGD	L	1	(2)+(3)	1a+2b+2c+2e+2f
10B	Bituminous	HESP	H	1	(2)+(3)	1a+2b+2c+2e+2g+1b
11B	Bituminous	HESP+FGD	L	1	(2)+(3)	1a+2b+2c+2e+2g+1b
12B	Bituminous	HESP+SCR	H	1	(2)+(3)	1a+2b+2c+2e+2g+1b
13B	Bituminous	PMSCRUB+FGD	L	5	(2)+(3)	1a+2b+2c+2e+2f
14B	Bituminous	PMSCRUB+FGD+SCR	L	none	none	none
15	Lignite	ESP	L	10	1)+(2)+(3)	1a+2a+2b+2c+2d+2e+2f
16	Lignite	ESP+FF	L	1	1)+(2)+(3)	1a+2a+2b+2c+2d+2e+2f
17	Lignite	ESP+FGD	L	10	1)+(2)+(3)	1a+2a+2b+2c+2d+2e+2f
18	Lignite	FF+DS	L	1	(1)+(2)+(3)+(4)	1a+2a+2b+2c+2d+2e+2g+1b
19	Lignite	FF+FGD	L	1	(1)+(2)+(3)	1a+2a+2b+2c+2d+2e+2f
20	Subbituminous	ESP	L	10	(2)+(3)	1a+2b+2c+2e+2f
21	Subbituminous	ESP+DS	L	1	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
22	Subbituminous	ESP+FGD	L	10	(2)+(3)	1a+2b+2c+2e+2f
23	Subbituminous	ESP+SCR	L	1	(2)+(3)	1a+2b+2c+2e+2f
24	Subbituminous	FF	L	1	(2)+(3)	1a+2b+2c+2e+2g+1b
25	Subbituminous	FF+DS	L	1	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
26	Subbituminous	FF+FGD	L	1	(2)+(3)	1a+2b+2c+2e+2f
27	Subbituminous	HESP	L	1	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
28	Subbituminous	HESP+FGD	L	1	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
29	Subbituminous	HESP+SCR	L	1	(2)+(3)+(4)	1a+2b+2c+2e+2g+1b
30	Subbituminous	PMSCRUB	L	10	(2)+(3)	1a+2b+2c+2e+2f
31	Subbituminous	PMSCRUB+FGD+SCR	L	10	(2)+(3)	1a+2b+2c+2e+2f

**Table L2-3. Additional ACI O&M Equation for Bag Replacement Costs**

*(1b) Bag Replacement Costs*

*Bag Replacement Costs, \$ / kW-yr = 0.05 \* 0.18 \* PJFF BIRC*

Where,

*PJFF BIRC, \$ / kW = (4) New Pulse-Jet Fabric Filter System*

## **Attachment M**

**AEO 2003 Coal Supply Labor Productivity  
and Transportation Escalator Assumptions  
Used in v2.1.6**

Table M1 shows the labor productivity assumptions underlying the coal supply curves in *Annual Energy Outlook 2003*. To provide greater consistency between the v.2.1.6 and the AEO 2003 coal supply curves, the regional coal supply curves in v.2.1.6 were adjusted to reflect the percentage change in labor productivity assumed in AEO 2003. This involved first matching up the AEO and IPM coal supply regions. Then, for each coal supply region a calculation was made of the percentage change in labor productivity between model run years used in v.2.1.6 (i.e., 2005 to 2010, 2010 to 2015, and 2015 to 2020). Finally, the calculated percentage changes in labor productivity were incorporated into the v.2.1.6 coal supply curves for each region.

Table M2 shows the year-to-year change in coal transportation cost rates assumed in AEO 2003. To provide greater consistency between the v.2.1.6 and the AEO 2003 coal transportation cost assumptions, the coal transportation cost escalation rates in v.2.1.6 were made consistent with those assumed in AEO 2003. As a result, the percentage changes in coal transportation cost rates between v.2.1.6 model run years (i.e., 2005 to 2010, 2010 to 2015, and 2015 to 2020) correspond to the changes in AEO 2003 as shown in Table M2.

**Table M1. LABOR PRODUCTIVITY (Short Tons per Miner Hour)**

NEMS run aeo2003.d110502c

Coal Market Module Region	States	Preliminary															
		Data 2000	Data 2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Northern Appalachia (NA)	PA, OH, MD, WV (North)	4.29	4.21	4.22	4.33	4.43	4.52	4.61	4.70	4.76	4.84	4.91	4.97	5.01	5.05	5.10	5.13
Central Appalachia (CA)	WV (South), KY (East), VA	4.17	3.83	3.96	4.02	4.10	4.18	4.24	4.29	4.34	4.38	4.43	4.45	4.46	4.47	4.47	4.48
Southern Appalachia (SA)	AL, TN	2.79	2.81	2.80	2.81	2.83	2.85	2.86	2.87	2.89	2.90	2.91	2.91	2.92	2.92	2.93	2.93
East Interior (EI)	IL, IN, KY (West), MS	4.72	4.73	4.77	4.80	4.88	4.99	5.06	5.12	5.21	5.26	5.34	5.39	5.48	5.53	5.60	5.68
West Interior (WI)	IA, MO, KS, AR, OK, TX (Bit)	3.58	3.94	3.94	3.92	3.91	3.90	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.90	3.90	3.89
Gulf Lignite (GL)	TX, LA	9.89	8.85	9.07	9.27	9.46	9.62	9.76	9.88	9.99	10.06	10.10	10.15	10.19	10.23	10.26	10.29
Dakota Lignite (DL)	ND, SD, MT (East)	17.64	17.07	17.43	17.74	18.03	18.28	18.50	18.70	18.89	19.06	19.21	19.35	19.46	19.56	19.66	19.73
Powder & Green River Basins (PG)	WY, MT (West)	35.86	37.30	38.24	39.12	39.94	40.70	40.95	41.54	42.09	42.61	43.09	43.32	43.32	43.32	43.29	43.29
Rocky Mountain (RM)	CO, UT	7.66	8.67	9.02	9.38	9.67	9.95	10.20	10.44	10.61	10.75	10.84	10.95	11.07	11.16	11.24	11.34
Southwest (ZN)	NM, AZ	8.01	7.92	8.08	8.27	8.32	8.38	8.39	8.46	8.51	8.55	8.55	8.61	8.62	8.64	8.67	8.67
Northwest (AW)	AK, WA	4.28	4.32	4.34	4.35	4.37	4.38	4.39	4.40	4.40	4.41	4.41	4.41	4.41	4.41	4.41	4.41
Appalachia (NA,CA,SA)		4.10	3.87	3.97	4.04	4.12	4.20	4.26	4.32	4.36	4.41	4.46	4.49	4.50	4.52	4.54	4.55
Interior (EI,WI,GL)		5.81	5.57	5.62	5.62	5.81	5.93	5.99	6.08	6.15	6.22	6.22	6.20	6.28	6.30	6.34	6.39
Northern Great Plains (DL,PG)		33.23	34.43	35.17	36.04	36.81	37.51	37.86	38.50	39.07	39.61	40.18	40.47	40.53	40.57	40.60	40.64
Other West (RM,ZN,AW)		7.44	7.93	8.15	8.43	8.60	8.77	8.92	9.09	9.17	9.28	9.32	9.43	9.56	9.63	9.69	9.78
East of the Mississippi River		4.19	4.00	4.10	4.17	4.25	4.34	4.41	4.46	4.51	4.56	4.61	4.64	4.67	4.69	4.72	4.74
West of the Mississippi River		17.67	18.34	19.26	19.61	19.78	20.01	20.42	20.94	21.51	21.94	22.82	23.33	23.41	23.63	23.90	24.02
Underground		4.17	4.03	4.20	4.35	4.46	4.58	4.68	4.76	4.80	4.87	4.94	5.02	5.11	5.15	5.20	5.26
Surface		11.05	10.64	10.65	10.80	11.04	11.10	11.30	11.63	11.94	12.30	12.78	13.10	13.37	13.43	13.60	13.69
U.S. Total/Average		7.02	6.85	7.08	7.20	7.39	7.49	7.62	7.80	7.99	8.20	8.47	8.66	8.82	8.87	8.96	9.03

Source: Energy Information Administration, Annual Energy Outlook 2003 (January 2003), Reference Case forecast,  
 National Energy Modeling System run AEO2003.D110502C.

**Table M1. LABOR PRODUCTIVITY (Short Tons per I**

NEMS run aeo2003.d110502c

Coal Market Module Region	States	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Avg Ann Grwth 01-05	Avg Ann Grwth 01-10	Avg Ann Grwth 01-25
Northern Appalachia (NA)	PA, OH, MD, WV (North)	5.17	5.19	5.24	5.27	5.29	5.31	5.33	5.36	5.39	5.42	1.8%	1.7%	1.1%
Central Appalachia (CA)	WV (South), KY (East), VA	4.48	4.49	4.49	4.49	4.50	4.51	4.52	4.53	4.54	4.54	2.2%	1.6%	0.7%
Southern Appalachia (SA)	AL, TN	2.94	2.94	2.93	2.93	2.93	2.92	2.92	2.91	2.91	2.90	0.3%	0.4%	0.1%
East Interior (EI)	IL, IN, KY (West), MS	5.76	5.84	5.91	6.00	6.07	6.15	6.23	6.31	6.40	6.50	1.4%	1.4%	1.3%
West Interior (WI)	IA, MO, KS, AR, OK, TX (Bit)	3.89	3.88	3.89	3.88	3.87	3.86	3.85	3.85	3.84	3.83	-0.3%	-0.1%	-0.1%
Gulf Lignite (GL)	TX, LA	10.30	10.31	10.32	10.32	10.32	10.32	10.32	10.32	10.32	10.32	2.1%	1.5%	0.6%
Dakota Lignite (DL)	ND, SD, MT (East)	19.81	19.87	19.93	19.97	20.01	20.05	20.09	20.13	20.17	20.21	1.7%	1.3%	0.7%
Powder & Green River Basins (PG)	WY, MT (West)	43.30	43.31	43.34	43.38	43.45	43.52	43.55	43.59	43.62	43.62	2.2%	1.6%	0.7%
Rocky Mountain (RM)	CO, UT	11.41	11.50	11.56	11.66	11.75	11.81	11.86	11.93	11.98	12.04	3.5%	2.5%	1.4%
Southwest (ZN)	NM, AZ	8.68	8.69	8.68	8.69	8.69	8.69	8.69	8.69	8.69	8.69	1.4%	0.9%	0.4%
Northwest (AW)	AK, WA	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	0.3%	0.2%	0.1%
Appalachia (NA,CA,SA)		4.57	4.58	4.60	4.61	4.63	4.64	4.66	4.68	4.70	4.70	2.1%	1.6%	0.8%
Interior (EI,WI,GL)		6.48	6.54	6.60	6.64	6.71	6.76	6.82	6.88	6.94	7.03	1.6%	1.2%	1.0%
Northern Great Plains (DL,PG)		40.71	40.78	40.85	40.93	41.04	41.11	41.21	41.29	41.34	41.39	2.2%	1.7%	0.8%
Other West (RM,ZN,AW)		9.82	9.87	9.89	9.98	10.03	10.05	10.10	10.16	10.19	10.25	2.5%	1.8%	1.1%
East of the Mississippi River		4.78	4.80	4.83	4.85	4.87	4.90	4.93	4.96	4.99	5.01	2.1%	1.6%	0.9%
West of the Mississippi River		24.25	24.52	24.79	25.05	25.32	25.38	25.72	25.85	25.97	26.07	2.2%	2.5%	1.5%
Underground		5.31	5.35	5.40	5.46	5.50	5.56	5.61	5.67	5.72	5.74	3.3%	2.3%	1.5%
Surface		13.90	14.09	14.25	14.45	14.62	14.68	14.91	15.02	15.07	15.16	1.1%	2.1%	1.5%
U.S. Total/Average		9.16	9.28	9.37	9.48	9.60	9.68	9.82	9.91	9.95	9.97	2.2%	2.4%	1.6%

Source: Energy Information Administration, Annual Energy Outlook 2003 (Jan  
National Energy Modeling System run AEO2003.D110502C.

**Table M2. Transportation Rate Multipliers, 2001-2025**  
 (2001=1.000)

year	Reference Case
2001	1.0000
2002	0.9914
2003	0.9783
2004	0.9622
2005	0.9661
2006	0.9609
2007	0.9526
2008	0.9455
2009	0.9376
2010	0.9304
2011	0.9241
2012	0.9134
2013	0.9014
2014	0.8892
2015	0.8739
2016	0.8587
2017	0.8440
2018	0.8282
2019	0.8127
2020	0.7954
2021	0.7864
2022	0.7773
2023	0.7673
2024	0.7577
2025	0.7487

Source: Energy Information Administration, Annual Energy Outlook 2003 (January 2003), Reference Case forecast,  
 National Energy Modeling System run AEO2003.D110502C.

## **Attachment N**

### **Natural Gas Supply Curves and Transportation and Seasonal Adders in v.2.1.6**

IPM v.2.1.6, like the previous IPM v. 2.1, uses supply curves to provide a price-quantity relationship for natural gas supplies in the United States. The v.2.1.6 gas supply curves are shown in Table N1. They were derived using the North American Natural Gas Analysis System (NANGAS), a detail-rich natural gas model developed by ICF Consulting, Inc. NANGAS is based on the Gas System Analysis Model (GSAM), a model currently maintained and used at the Strategic Center for Natural Gas (SCNG) at the U.S. Department of Energy (DOE). GSAM was used to generate the gas supply curves for v.2.1. NANGAS adds computer programming logic and data improvements to GSAM to better capture the interplay of demand- and supply-side factors on natural gas supply.

The supply curves contained in Table N1 specify annual price and volume relationships at the Henry Hub.<sup>1</sup> The impact on prices of demand for natural gas from the non-electric sector is also accounted for in the supply curves. These curves are derived from a series of NANGAS runs, where natural gas supply, demand, and transportation are equilibrated under a variety of electricity growth rate assumptions. A separate supply curve is provided for each IPM model run year.

V.2.1.6 includes explicit transportation and seasonal adders to reflect the cost of moving gas from the source to the plant and to account for the seasonality in gas prices.

Table N2 shows the v.2.1.6 transportation differentials for each IPM model region relative to the Henry Hub price. These transportation differentials were produced by analyzing daily gas price data for key pricing points in North America as reported in the Platts (McGraw-Hill) publication "Gas Daily". The key natural gas pricing points were mapped into IPM regions to produce the average annual differentials shown in Table N2.

Table N3 shows the seasonal gas adders used in the v.2.1.6. The values were derived from daily price data for key pricing points as reported in the Platts (McGraw-Hill) publication "Gas Daily". The seasonal adders in Table N3 are used to distinguish summer and winter delivered gas prices. Seasonal gas adders vary by IPM model region. In general, seasonal gas adders for winter are higher than those for summer. In winter, due to lower temperatures, there is higher demand for gas by the residential sector for space heating. This results in higher gas pipeline utilization and higher delivered gas prices.

In v.2.1.6, plants using natural gas for electric generation face market clearing prices. This price is endogenously determined in IPM by equating demand and supply. In every IPM run, the market clearing price and transportation and seasonal cost adders all enter into the calculation of total expenditures on natural gas consumption for electric generation. Table N4 shows the Henry Hub and national average delivered natural gas prices resulting under the v.2.1.6 Base Case. Table N5 shows the Henry Hub and national average delivered prices resulting under the v.2.1.6 Clear Skies Case.

#### Notes

1. The Henry Hub is a gas pipeline junction in Louisiana, which interconnects with nine interstate and four intrastate pipelines and offers shippers access to pipelines that have markets in U.S. Gulf Coast, Southeast, Midwest, and Northeast regions. Due to the Hub's strategic centralized location, the price of natural gas at the Henry Hub serves as the generally accepted reference point for U.S. natural gas trading.

**Table N1. EPA v.2.1.6 Gas Supply Curves**

YEAR	PRICE (1999 \$/MMBtu)	Non Electric Gas Demand (Tbtu)	Total Gas Supply (Tbtu)
2005	2.39	19553	23250
2005	2.44	19494	23330
2005	2.49	19436	23410
2005	2.54	19380	23490
2005	2.58	19325	23570
2005	2.63	19271	23650
2005	2.68	19218	23730
2005	2.73	19166	23810
2005	2.77	19115	23890
2005	2.82	19065	23960
2005	2.87	19016	24030
2005	2.92	18968	24100
2005	2.96	18928	24160
2005	2.97	18922	24170
2005	3.01	18879	24260
2005	3.04	18855	24310
2005	3.06	18836	24340
2005	3.11	18793	24420
2005	3.16	18750	24500
2005	3.2	18707	24580
2005	3.21	18707	24580
2005	3.25	18664	24620
2005	3.3	18621	24660
2005	3.35	18578	24700
2005	3.39	18542	24740
2005	3.4	18536	24750
2005	3.44	18497	24810
2005	3.49	18458	24870
2005	3.54	18420	24930
2005	3.59	18382	24990
2005	3.64	18345	25050
2005	3.68	18309	25110
2005	3.73	18273	25170
2005	3.78	18238	25230
2005	3.83	18203	25290
2005	3.87	18169	25350
2005	3.92	18135	25410
2005	3.97	18102	25470
2005	4.02	18069	25530
2005	4.07	18036	25580
2005	4.11	18004	25630
2005	4.16	17972	25680
2005	4.21	17941	25730
2005	4.26	17910	25780
2005	4.31	17880	25830
2005	4.35	17850	25880
2005	4.4	17820	25930
2005	4.45	17791	25980
2005	4.5	17762	26030
2005	4.54	17733	26080
2005	4.59	17705	26130
2005	4.64	17677	26180
2005	4.69	17649	26230
2005	4.74	17622	26280
2005	4.78	17595	26330

**Table N1. EPA v.2.1.6 Gas Supply Curves**

YEAR	PRICE (1999 \$/MMBtu)	Non Electric Gas Demand (Tbtu)	Total Gas Supply (Tbtu)
2010	2.39	20693	25670
2010	2.44	20640	25780
2010	2.49	20588	25890
2010	2.54	20537	26000
2010	2.58	20487	26110
2010	2.63	20438	26220
2010	2.68	20390	26330
2010	2.73	20343	26430
2010	2.77	20297	26530
2010	2.82	20252	26630
2010	2.87	20208	26730
2010	2.89	20192	26770
2010	2.92	20170	26820
2010	2.97	20135	26900
2010	3.01	20100	26980
2010	3.06	20065	27060
2010	3.09	20043	27110
2010	3.11	20029	27140
2010	3.16	19990	27220
2010	3.21	19951	27300
2010	3.25	19912	27380
2010	3.3	19873	27460
2010	3.35	19834	27540
2010	3.4	19795	27620
2010	3.44	19756	27700
2010	3.49	19717	27780
2010	3.54	19678	27860
2010	3.58	19643	27930
2010	3.59	19640	27950
2010	3.64	19607	28170
2010	3.68	19574	28390
2010	3.7	19566	28450
2010	3.73	19542	28510
2010	3.78	19510	28590
2010	3.83	19478	28670
2010	3.87	19447	28750
2010	3.92	19416	28830
2010	3.97	19386	28910
2010	4.02	19356	28990
2010	4.07	19326	29070
2010	4.11	19297	29150
2010	4.16	19268	29220
2010	4.21	19239	29290
2010	4.26	19211	29360
2010	4.31	19183	29430
2010	4.35	19156	29500
2010	4.4	19129	29570
2010	4.45	19102	29640
2010	4.5	19076	29710
2010	4.54	19050	29780
2010	4.59	19024	29850
2010	4.64	18998	29920
2010	4.69	18973	29990
2010	4.74	18948	30060
2010	4.78	18923	30130

**Table N1. EPA v.2.1.6 Gas Supply Curves**

YEAR	PRICE (1999 \$/MMBtu)	Non Electric Gas Demand (Tbtu)	Total Gas Supply (Tbtu)
2015	2.39	21877	25540
2015	2.44	21845	25910
2015	2.49	21813	26280
2015	2.54	21782	26650
2015	2.58	21751	27020
2015	2.63	21721	27390
2015	2.68	21692	27750
2015	2.73	21663	28110
2015	2.77	21635	28470
2015	2.82	21607	28830
2015	2.87	21580	29190
2015	2.89	21570	29320
2015	2.92	21567	29820
2015	2.96	21564	30500
2015	2.97	21560	30540
2015	3.01	21535	30810
2015	3.06	21510	31080
2015	3.11	21485	31350
2015	3.16	21460	31620
2015	3.21	21435	31890
2015	3.24	21419	32060
2015	3.25	21407	32190
2015	3.3	21375	32560
2015	3.35	21343	32930
2015	3.37	21330	33080
2015	3.4	21317	33280
2015	3.44	21295	33620
2015	3.49	21273	33960
2015	3.54	21251	34300
2015	3.59	21230	34640
2015	3.64	21209	34980
2015	3.68	21188	35310
2015	3.73	21168	35640
2015	3.78	21148	35970
2015	3.83	21128	36300
2015	3.87	21108	36630
2015	3.92	21089	36960
2015	3.97	21070	37290
2015	4.02	21051	37620
2015	4.07	21032	37950
2015	4.11	21014	38270
2015	4.16	20996	38590
2015	4.21	20978	38910
2015	4.26	20960	39230
2015	4.31	20942	39550
2015	4.35	20925	39870
2015	4.4	20908	40190
2015	4.45	20891	40510
2015	4.5	20874	40830
2015	4.54	20857	41150
2015	4.59	20841	41460
2015	4.64	20825	41770
2015	4.69	20809	42080
2015	4.74	20793	42390
2015	4.78	20777	42700

**Table N1. EPA v.2.1.6 Gas Supply Curves**

YEAR	PRICE (1999 \$/MMBtu)	Non Electric Gas Demand (Tbtu)	Total Gas Supply (Tbtu)
2020	2.39	23378	30070
2020	2.44	23338	30470
2020	2.49	23299	30870
2020	2.54	23260	31260
2020	2.58	23222	31650
2020	2.63	23185	32040
2020	2.66	23161	32290
2020	2.68	23154	32440
2020	2.73	23132	32900
2020	2.77	23110	33360
2020	2.82	23088	33820
2020	2.87	23066	34280
2020	2.88	23063	34350
2020	2.92	23033	34660
2020	2.97	22997	35030
2020	3.01	22961	35400
2020	3.06	22925	35770
2020	3.08	22910	35930
2020	3.11	22887	36080
2020	3.16	22846	36340
2020	3.21	22805	36600
2020	3.25	22764	36860
2020	3.27	22753	36930
2020	3.3	22732	37190
2020	3.35	22704	37550
2020	3.4	22676	37910
2020	3.44	22648	38260
2020	3.49	22621	38610
2020	3.54	22594	38960
2020	3.59	22568	39310
2020	3.64	22542	39660
2020	3.68	22516	40010
2020	3.73	22491	40350
2020	3.78	22466	40690
2020	3.83	22441	41030
2020	3.87	22417	41370
2020	3.92	22393	41710
2020	3.97	22369	42050
2020	4.02	22346	42390
2020	4.07	22323	42720
2020	4.11	22300	43050
2020	4.16	22278	43380
2020	4.21	22256	43710
2020	4.26	22234	44040
2020	4.31	22212	44370
2020	4.35	22191	44700
2020	4.4	22170	45030
2020	4.45	22149	45350
2020	4.5	22128	45670
2020	4.54	22108	45990
2020	4.59	22088	46310
2020	4.64	22068	46630
2020	4.69	22048	46950
2020	4.74	22029	47270
2020	4.78	22010	47590

**Table N1. EPA v.2.1.6 Gas Supply Curves**

YEAR	PRICE (1999 \$/MMBtu)	Non Electric Gas Demand (Tbtu)	Total Gas Supply (Tbtu)
2025	2.39	24629	18890
2025	2.44	24593	19710
2025	2.49	24558	20550
2025	2.54	24524	21400
2025	2.58	24491	22270
2025	2.63	24458	23160
2025	2.68	24426	24070
2025	2.73	24394	24990
2025	2.77	24363	25930
2025	2.82	24333	26890
2025	2.87	24303	27870
2025	2.92	24274	28860
2025	2.97	24245	29870
2025	3.01	24217	30900
2025	3.06	24189	31950
2025	3.11	24162	33010
2025	3.16	24135	34090
2025	3.18	24120	34710
2025	3.21	24118	35850
2025	3.24	24115	37510
2025	3.25	24109	37650
2025	3.3	24094	38040
2025	3.34	24082	38340
2025	3.32	24000	38800
2025	3.35	23983	39560
2025	3.4	23958	40730
2025	3.44	23934	41920
2025	3.49	23910	43130
2025	3.54	23886	44350
2025	3.59	23863	45590
2025	3.64	23840	46850
2025	3.68	23817	48130
2025	3.73	23795	49430
2025	3.78	23773	50740
2025	3.83	23751	52070
2025	3.87	23729	53420
2025	3.92	23708	54790
2025	3.97	23687	56180
2025	4.02	23666	57580
2025	4.07	23646	59000
2025	4.11	23626	60440
2025	4.16	23606	61900
2025	4.21	23586	63380
2025	4.26	23567	64870
2025	4.31	23548	66380
2025	4.35	23529	67910
2025	4.4	23510	69460
2025	4.45	23491	71030
2025	4.5	23473	72620
2025	4.54	23455	74220
2025	4.59	23437	75840
2025	4.64	23419	77480
2025	4.69	23401	79140
2025	4.74	23384	80820
2025	4.78	23367	82520

**Table N2. Transportation Differentials for EPA Base Case 2.1.6 (1999 cents/MMBtu)**

	<b>ECAO</b>	<b>MANO</b>	<b>MECS</b>	<b>MACE</b>	<b>MACW</b>	<b>MACS</b>	<b>MAPP</b>	<b>LILC</b>	<b>NENG</b>	<b>VACA</b>	<b>TVA</b>	<b>UPNY</b>	<b>NYC</b>
2005	19.10	9.57	13.40	31.60	36.40	31.60	-17.00	40.20	36.40	38.30	3.83	17.20	66.00
2010	19.10	9.57	13.40	31.60	36.40	31.60	-17.00	40.20	36.40	38.30	3.83	17.20	66.00
2015	19.10	9.57	13.40	31.60	36.40	31.60	-17.00	40.20	36.40	38.30	3.83	17.20	66.00
2020	19.10	9.57	13.40	31.60	36.40	31.60	-17.00	40.20	36.40	38.30	3.83	17.20	66.00

	<b>DSNY</b>	<b>WUMS</b>	<b>ENTG</b>	<b>SOU</b>	<b>SPPN</b>	<b>SPPS</b>	<b>FRCC</b>	<b>ERCT</b>	<b>RMPA</b>	<b>NWPE</b>	<b>AZNM</b>	<b>PNW</b>	<b>CALI</b>
2005	32.50	8.61	1.91	1.91	-19.00	-17.00	29.70	-12.00	-34.00	-47.00	-15.00	-36.00	17.20
2010	32.50	8.61	1.91	1.91	-19.00	-17.00	29.70	-12.00	-34.00	-47.00	-15.00	-36.00	17.20
2015	32.50	8.61	1.91	1.91	-19.00	-17.00	29.70	-12.00	-34.00	-47.00	-15.00	-36.00	17.20
2020	32.50	8.61	1.91	1.91	-19.00	-17.00	29.70	-12.00	-34.00	-47.00	-15.00	-36.00	17.20

Note: This is an update of Table A8.6 that appears in *Documentation of EPA Modeling Applications (V.2.1) Using the Integrated Planning Mode*.

**Table N3. Seasonal Gas Price Adders in EPA Base Case 2.1.6 (1999 cents/MMBtu)**

Winter	ECAO	MANO	MECS	MACE	MACW	MACS	MAPP	LILC	NENG	VACA	TVA	UPNY	NYC
2005	1.91	1.91	0.00	5.74	5.74	4.78	2.87	9.57	7.65	7.65	0.00	3.83	7.65
2010	1.91	1.91	0.00	5.74	5.74	4.78	2.87	9.57	7.65	7.65	0.00	3.83	7.65
2015	1.91	1.91	0.00	5.74	5.74	4.78	2.87	9.57	7.65	7.65	0.00	3.83	7.65
2020	1.91	1.91	0.00	5.74	5.74	4.78	2.87	9.57	7.65	7.65	0.00	3.83	7.65

Summer	ECAO	MANO	MECS	MACE	MACW	MACS	MAPP	LILC	NENG	VACA	TVA	UPNY	NYC
2005	-2.90	-2.90	0.00	-7.70	-7.70	-6.70	-3.80	-10.50	-7.70	-9.60	0.00	-5.70	-10.50
2010	-2.90	-2.90	0.00	-7.70	-7.70	-6.70	-3.80	-10.50	-7.70	-9.60	0.00	-5.70	-10.50
2015	-2.90	-2.90	0.00	-7.70	-7.70	-6.70	-3.80	-10.50	-7.70	-9.60	0.00	-5.70	-10.50
2020	-2.90	-2.90	0.00	-7.70	-7.70	-6.70	-3.80	-10.50	-7.70	-9.60	0.00	-5.70	-10.50

Winter	DSNY	WUMS	ENTG	SOU	SPPN	SPPS	FRCC	ERCT	RMPA	NWPE	AZNM	PNW	CALI
2005	7.65	1.91	0.00	-1.00	0.96	0.96	-5.70	-1.90	8.61	22.96	0.00	10.52	-3.80
2010	7.65	1.91	0.00	-1.00	0.96	0.96	-5.70	-1.90	8.61	22.96	0.00	10.52	-3.80
2015	7.65	1.91	0.00	-1.00	0.96	0.96	-5.70	-1.90	8.61	22.96	0.00	10.52	-3.80
2020	7.65	1.91	0.00	-1.00	0.96	0.96	-5.70	-1.90	8.61	22.96	0.00	10.52	-3.80

Summer	DSNY	WUMS	ENTG	SOU	SPPN	SPPS	FRCC	ERCT	RMPA	NWPE	AZNM	PNW	CALI
2005	-7.70	-1.90	0.00	0.00	0.00	-1.00	5.74	2.87	-12.40	-26.80	0.00	-13.40	4.78
2010	-7.70	-1.90	0.00	0.00	0.00	-1.00	5.74	2.87	-12.40	-26.80	0.00	-13.40	4.78
2015	-7.70	-1.90	0.00	0.00	0.00	-1.00	5.74	2.87	-12.40	-26.80	0.00	-13.40	4.78
2020	-7.70	-1.90	0.00	0.00	0.00	-1.00	5.74	2.87	-12.40	-26.80	0.00	-13.40	4.78

Note: This is an update of Table A8.7 that appears in *Documentation of EPA Modeling Applications (V.2.1) Using the Integrated Planning Mode*.

**Table N4. US Wellhead and National Average Delivered  
Natural Gas Prices  
in EPA Base Case, v.2.1.6  
(1999 \$/mmBtu)**

Year	Wellhead Gas Price (at Henry Hub)	Delivered Gas Price
2005	2.89	2.95
2010	2.97	3.03
2015	2.96	3.03
2020	2.87	2.94

Note: This is an update of Table 8.8 that appears in *Documentation of EPA Modeling Applications (V.2.1) Using the Integrated Planning Model*.

**Table N5. US Wellhead and National Average Delivered  
Natural Gas Prices  
in EPA Clear Skies Case, v.2.1.6  
(1999 \$/mmBtu)**

<b>Year</b>	<b>Wellhead Gas Price (at Henry Hub)</b>	<b>Delivered Gas Price</b>
2005	2.96	3.02
2010	3.11	3.17
2015	3.01	3.08
2020	2.94	3.01

## **Attachment O**

**Fuel Oil Prices in v.2.1.6**

Table O-1 shows the distillate and residual (low and high sulfur) fuel oil prices used in v.2.1.6. Tables O-2, O-3, and O-3 show the AEO 2003 fuel oil price assumptions from which the v.2.1.6 prices were derived. Table O-5 shows the mapping that was employed to assign the regional specific fuel prices in AEO 2003 to the IPM model regions used in v.2.1.6.

**Table O-1. Fuel Oil Prices in V.2.1.6**

<b>High Sulfur Resid Prices by IPM Region</b> <b>1999\$/mmBtu</b>		
<b>Year</b>	<b>IPM Region</b>	
	<b>MACE</b>	<b>NENG</b>
2005	3.48	2.87
2010	3.57	2.98
2015	3.67	3.11
2020	3.76	3.22

<b>Low Sulfur Resid Prices by IPM Region</b> <b>1999\$/mmBtu</b>		
<b>Year</b>	<b>IPM Region</b>	
	<b>MACE</b>	<b>NENG</b>
2005	3.70	3.24
2010	3.79	3.35
2015	3.89	3.47
2020	3.99	3.58

<b>Distillate Prices by IPM Region</b> <b>1999\$/mmBtu</b>		
<b>Year</b>	<b>IPM Region</b>	
	<b>MACE</b>	<b>NENG</b>
2005	4.80	4.88
2010	4.85	4.94
2015	5.23	5.29
2020	5.58	5.60

Note: Consistent with AEO 2003, the sulfur content of the three fuels is as follows:

<u>Fuel</u>	<u>Sulfur Content</u>
High Sulfur Resid	2.69 lb/mmBtu.
Low Sulfur Resid	1.08 lb/mmBtu
Distillate	0.3 lb/mmBtu

**Table O-2. Distillate Fuel Prices by EMM region**

2001 \$/mmbtu

curiyr	1	2	3	4	5	6	7	8	9	10	11	12	13
2000	6.59	6.12	7.19	6.57	6.66	7.42	6.95	6.70	6.37	6.57	8.15	8.02	8.17
2001	5.93	6.51	5.81	5.94	6.16	5.70	5.78	6.06	6.31	6.36	6.54	7.32	6.37
2002	5.50	5.44	5.48	5.53	5.57	5.51	5.51	5.37	5.46	5.48	6.06	6.33	5.91
2003	5.93	5.87	5.90	5.96	5.99	5.92	5.94	5.79	5.89	5.91	6.48	6.75	6.42
2004	5.11	5.00	5.19	5.15	5.22	5.24	5.27	4.98	5.03	5.04	5.47	6.05	5.24
2005	4.93	4.82	5.01	4.96	5.03	5.06	5.10	4.80	4.84	4.85	5.27	5.86	5.05
2006	4.84	4.73	4.93	4.88	4.94	4.97	5.01	4.71	4.76	4.77	5.39	5.78	5.17
2007	4.84	4.72	4.93	4.88	4.94	4.97	5.02	4.72	4.76	4.78	5.46	5.78	5.26
2008	4.90	4.78	4.96	4.93	5.00	5.02	5.06	4.77	4.81	4.83	5.48	5.83	5.31
2009	4.96	4.83	4.99	4.98	5.05	5.04	5.09	4.81	4.85	4.88	5.53	5.87	5.28
2010	5.03	4.90	5.07	5.05	5.14	5.12	5.17	4.88	4.92	4.95	5.58	5.94	5.27
2011	5.21	5.07	5.17	5.22	5.31	5.19	5.24	5.06	5.10	5.12	5.63	6.11	5.18
2012	5.26	5.11	5.23	5.27	5.36	5.26	5.31	5.10	5.14	5.17	5.70	6.15	5.29
2013	5.41	5.28	5.32	5.43	5.52	5.34	5.39	5.26	5.30	5.32	5.78	6.31	5.32
2014	5.59	5.47	5.48	5.62	5.72	5.51	5.54	5.41	5.49	5.53	5.89	6.37	5.34
2015	5.63	5.53	5.47	5.67	5.77	5.49	5.53	5.40	5.52	5.58	5.98	6.55	5.47
2016	5.69	5.58	5.51	5.73	5.83	5.54	5.58	5.44	5.58	5.63	6.02	6.61	5.50
2017	5.88	5.78	5.49	5.93	6.03	5.48	5.52	5.54	5.76	5.83	6.14	6.81	5.53
2018	5.99	5.88	5.60	6.04	6.14	5.58	5.63	5.69	5.88	5.93	6.22	6.92	5.58
2019	6.17	6.06	5.76	6.21	6.31	5.75	5.79	5.85	6.06	6.11	6.31	7.10	5.61
2020	6.21	6.12	5.83	6.25	6.36	5.82	5.86	5.92	6.10	6.16	6.34	7.14	5.61
2021	6.37	6.27	5.87	6.43	6.53	5.85	5.90	5.97	6.25	6.34	6.31	7.30	5.37
2022	6.52	6.42	5.90	6.57	6.68	5.88	5.93	6.00	6.38	6.49	6.54	7.46	5.71
2023	6.61	6.53	5.93	6.68	6.79	5.91	5.96	6.03	6.48	6.60	6.60	7.56	5.70
2024	6.66	6.58	5.96	6.74	6.85	5.95	5.99	6.07	6.52	6.64	6.67	7.60	5.78
2025	6.72	6.68	5.99	6.83	6.94	5.97	6.02	6.10	6.61	6.74	6.49	7.49	5.83

**Notes**

1. Prices are differentiated according to the regions defined in the Electricity Market Module (EMM) of the National Energy Modeling System (NEMS), the multi sector energy model, which is used by the U.S. Department of Energy's Energy Information Administration (EIA) to produce the projections reported each year in EIA's *Annual Energy Outlook*. Table O-5 at the end of this attachment provides a crosswalk between the EMM regions appearing in the table above and the IPM model regions used in v.2.1.6.
2. Consistent with AEO 2003, the sulfur content of petroleum distillate is defined as 0.3 lb/mmBtu.

**Table O-3. Low Sulfur Resid Prices by EMM region**

2001 \$/mmbtu

curiyr	1	2	3	4	5	6	7	8	9	10	11	12	13
2000	3.51	7.07	4.37	3.51	4.50	4.33	3.96	4.44	4.41	4.59	4.50	4.50	5.15
2001	3.71	4.03	3.05	3.71	3.40	2.87	3.13	4.43	3.90	3.79	5.38	5.38	3.21
2002	4.09	4.14	3.92	4.08	3.29	3.96	3.72	3.77	3.78	3.67	4.40	4.40	4.52
2003	4.32	4.40	4.17	4.33	3.53	4.20	3.95	4.01	3.96	3.93	4.68	4.68	4.75
2004	4.02	4.16	3.99	4.05	3.01	4.00	3.51	3.90	3.02	3.09	4.23	4.43	5.07
2005	3.91	4.05	3.86	3.92	3.02	3.88	3.39	3.77	2.88	2.99	4.31	4.31	4.94
2006	3.95	4.07	3.88	3.95	3.29	3.90	3.42	3.80	2.92	3.07	4.33	4.33	5.07
2007	3.98	4.09	3.90	3.95	3.29	3.92	3.44	3.82	2.95	3.04	4.36	4.36	4.99
2008	3.95	4.12	3.91	4.03	2.54	3.94	3.49	3.85	2.95	3.03	4.39	4.39	5.07
2009	3.98	4.13	3.94	4.01	2.82	3.96	3.48	3.87	2.98	3.05	4.40	4.40	5.06
2010	4.01	4.14	3.97	4.04	2.98	3.98	3.50	3.89	3.05	3.07	4.43	4.43	5.03
2011	4.01	4.17	3.99	4.08	3.17	4.01	3.52	3.91	3.17	3.30	4.44	4.44	5.03
2012	4.04	4.23	4.01	4.07	3.17	4.03	3.55	3.93	3.27	3.39	4.47	4.47	5.17
2013	4.06	4.21	4.02	4.11	3.17	4.05	3.57	3.96	3.33	3.53	4.48	4.48	5.14
2014	4.09	4.23	4.05	4.11	3.17	4.07	3.61	3.98	3.35	3.35	4.51	4.51	5.17
2015	4.12	4.26	4.07	4.15	3.17	4.10	3.63	4.00	3.38	3.55	4.54	4.54	5.14
2016	4.15	4.28	4.08	4.16	3.17	4.12	3.66	4.02	3.42	3.68	4.55	4.55	5.20
2017	4.15	4.30	4.11	4.19	3.17	4.14	3.68	4.04	3.44	3.68	4.58	4.58	5.22
2018	4.17	4.30	4.14	4.21	3.17	4.16	3.70	4.06	3.44	3.63	4.61	4.61	5.19
2019	4.20	4.30	4.17	4.23	3.17	4.18	3.73	4.08	3.47	3.65	4.62	4.62	5.30
2020	4.25	4.37	4.17	4.26	3.29	4.21	3.74	4.11	3.49	3.80	4.65	4.65	5.35
2021	4.31	4.41	4.20	4.30	3.29	4.24	3.77	4.14	3.59	3.81	4.70	4.70	5.28
2022	4.35	4.44	4.24	4.33	3.41	4.27	3.80	4.17	3.58	3.88	4.72	4.72	5.31
2023	4.36	4.47	4.28	4.36	3.17	4.31	3.83	4.21	3.46	3.91	4.75	4.75	5.41
2024	4.40	4.51	4.31	4.40	3.53	4.34	3.87	4.24	3.64	3.94	4.79	4.79	5.40
2025	4.45	4.54	4.34	4.43	3.53	4.37	3.90	4.27	3.65	3.98	4.82	4.82	5.44

**Notes**

1. Prices are differentiated according to the regions defined in the Electricity Market Module (EMM) of the National Energy Modeling System (NEMS), the multi sector energy model, which is used by the U.S. Department of Energy's Energy Information Administration (EIA) to produce the projections reported each year in EIA's *Annual Energy Outlook*. Table O-5 at the end of this attachment provides a crosswalk between the EMM regions appearing in the table above and the IPM model regions used in v.2.1.6.
2. Consistent with AEO 2003, the sulfur content of low sulfur residual oil is defined as 1.08 lb/mmBtu.

**Table 0-4. High Sulfur Resid Prices by EMM Region**

2001 \$/mmbtu

curiyr	1	2	3	4	5	6	7	8	9	10	11	12	13
2000	3.36	4.075	4.27	3.36	3.62	4.29	3.30	4.19	4.19	4.07	4.01	4.02	4.02
2001	2.81	2.919	2.69	2.81	3.09	2.64	2.85	3.59	3.59	2.92	4.90	4.89	2.92
2002	3.63	3.652	3.67	3.59	3.00	3.67	3.50	3.51	3.50	3.65	3.40	3.40	3.98
2003	4.23	3.878	3.91	3.81	3.24	3.91	3.73	3.75	3.71	3.88	3.62	3.62	4.21
2004	3.40	3.201	3.76	3.40	2.57	3.76	3.13	3.37	3.17	3.20	2.58	2.58	3.29
2005	3.27	3.074	3.63	3.27	2.44	3.63	3.00	3.25	3.07	3.07	2.45	2.45	3.16
2006	3.30	3.088	3.65	3.30	2.47	3.66	3.03	3.27	2.82	3.09	2.48	2.48	3.21
2007	3.33	3.116	3.67	3.33	2.50	3.67	3.06	3.29	3.29	3.12	2.50	2.50	3.20
2008	3.34	3.130	3.69	3.34	2.51	3.69	3.12	3.32	3.29	3.13	2.52	2.52	3.24
2009	3.37	3.158	3.71	3.46	2.54	3.72	3.09	3.34	3.29	3.16	2.54	2.54	3.23
2010	3.38	3.173	3.73	3.46	2.55	3.74	3.12	3.36	3.17	3.17	2.57	2.57	3.25
2011	3.41	3.201	3.76	3.46	2.58	3.77	3.13	3.38	3.29	3.20	2.59	2.59	3.29
2012	3.44	3.215	3.78	3.46	2.61	3.79	3.17	3.41	3.35	3.21	2.61	2.61	3.31
2013	3.45	3.243	3.78	3.46	2.62	3.81	3.19	3.43	3.10	3.24	2.64	2.64	3.32
2014	3.48	3.257	3.81	3.59	2.65	3.83	3.23	3.45	3.10	3.26	2.66	2.66	3.35
2015	3.51	3.285	3.84	3.59	2.68	3.86	3.25	3.47	3.53	3.29	2.68	2.68	3.36
2016	3.53	3.299	3.84	3.59	2.69	3.88	3.29	3.49	3.53	3.30	2.71	2.71	3.37
2017	3.55	3.328	3.87	3.59	2.72	3.90	3.31	3.51	3.53	3.33	2.74	2.74	3.40
2018	3.58	3.356	3.90	3.59	2.75	3.92	3.33	3.53	3.53	3.36	2.75	2.75	3.37
2019	3.61	3.370	3.93	3.59	2.76	3.94	3.35	3.55	3.53	3.37	2.78	2.78	3.45
2020	3.62	3.398	3.93	3.72	2.79	3.97	3.37	3.58	3.35	3.40	2.81	2.81	3.47
2021	3.67	3.426	3.96	3.72	2.83	4.00	3.40	3.61	3.53	3.43	2.83	2.83	3.50
2022	3.69	3.469	4.00	3.72	2.86	4.03	3.43	3.64	3.76	3.47	2.88	2.88	3.54
2023	3.74	3.497	4.04	3.85	2.90	4.07	3.45	3.68	3.76	3.50	2.90	2.90	3.56
2024	3.76	3.539	4.07	3.85	2.93	4.10	3.49	3.71	3.22	3.54	2.95	2.95	3.60
2025	3.81	3.567	4.11	3.85	2.96	4.13	3.52	3.74	3.76	3.57	2.98	2.98	3.63

**Notes**

1. Prices are differentiated according to the regions defined in the Electricity Market Module (EMM) of the National Energy Modeling System (NEMS), the multi sector energy model, which is used by the U.S. Department of Energy's Energy Information Administration (EIA) to produce the projections reported each year in EIA's *Annual Energy Outlook*. Table O-5 at the end of this attachment provides a crosswalk between the EMM regions appearing in the table above and the IPM model regions used in v.2.1.6.
2. Consistent with AEO 2003, the sulfur content of high sulfur residual oil is defined as 2.69 lb/mmBtu.

**Table O-5. Crosswalk Between Regions Used in the Electricity Market Module (EMM) of the National Energy Modeling System (NEMS) and IPM, v.2.1.6**

EMM Region #	Description	AEO Acronym	IPM Region
1 East Central Area Reliability Coordination Agreement - 01		ECAR	ECAO
1 East Central Area Reliability Coordination Agreement - 01		ECAR	MECS
2 Electric Reliability Council of Texas - 02		ERCT	ERCT
3 Mid-Atlantic Area Council - 03		MAAC	MACE
3 Mid-Atlantic Area Council - 03		MAAC	MACS
3 Mid-Atlantic Area Council - 03		MAAC	MACW
4 Mid-America Interconnected Network - 04		MAIN	MANO
4 Mid-America Interconnected Network - 04		MAIN	WUMS
5 Mid-Continent Area Power Pool - 05		MAPP	MAPP
6 Northeast Power Coordinating Council / New York - 06		NY	NYC
6 Northeast Power Coordinating Council / New York - 06		NY	UPNY
6 Northeast Power Coordinating Council / New York - 06		NY	DSNY
6 Northeast Power Coordinating Council / New York - 06		NY	LILC
7 Northeast Power Coordinating Council / New England - 07		NENG	NENG
8 Florida Reliability Coordinating Council - 08		FRCC	FRCC
9 Southeastern Electric Reliability Council - 09		SOU	SOU
9 Southeastern Electric Reliability Council - 09		SOU	VACA
10 Southwest Power Pool - 10		SPP	ENTG
9 Southeastern Electric Reliability Council - 09		SOU	TVA
10 Southwest Power Pool - 10		SPP	SPPS
10 Southwest Power Pool - 10		SPP	SPPN
11 Western Systems Coordinating Council / Northwest Power Pool Area - 11		PNW & NWPE	PNW
11 Western Systems Coordinating Council / Northwest Power Pool Area - 11		PNW & NWPE	NWPE
12 Western Systems Coordinating Council / Rocky Mountain Power Area, Arizona, New Mexico, & Southern Nevada - 12		RMPA & AZNM	EMPA
12 Western Systems Coordinating Council / Rocky Mountain Power Area, Arizona, New Mexico, & Southern Nevada - 12		RMPA & AZNM	AZNM
13 Western Systems Coordinating Council / California - 13		CALI	CALI

= Regions where fuel oil is provided in v.2.1.6.